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THE DENTAL DIGEST

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THE
DENTAL DIGEST

Vol. XXIX MAY, 1923 No. 5

Border Pressure and Its Relation to Impression Making*

By Samuel G. Supplee, New York, N. Y.

Your chairman, in asking me to write a paper on Border Pressure and Its Relation to Impression Making, has given me a subject that is difficult to present except in relative terms, because of the diversity of tissue conditions in the edentulous mouth.

Accepting the classifications as suggested by our Classification Committee, as the basis on which to submit these ideas, we will discuss them in their sequence—1, 2 and 3—with the corresponding Border Tissue and Muscular Attachments, and discuss the upper jaw only.

It is my desire to add to this what I have always considered a necessary denture classification. I have termed this Class 4, which represents mouths that have soft ridges or tuberosities. These ridges or tuberosities as a rule are flexible, and the successful impression must include the proper displacement of the ridges or tuberosities as well as the proper amount of pressure brought to bear on border tissues.

Class 1

In Class 1 the investing membrane is uniform all over. The pressure over the buccal and labial border, as well as the palatal pressure zones, should be practically the same as that exerted on the vault and ridges, and will be regulated entirely by the material used in the impression making, whether plaster or compound. In this type of mouth, we find as a rule the Class 1 (High) border attachments, as well as the Class 1 Muscular attachments.

Class 2

In Class 2 the vault and ridges as a rule are exceedingly hard, and the entire investing membrane is very thin. We find that the border tissue and the muscular attachments are as a rule represented by Class 3 (Low). In most Class 2 cases there is a very narrow area of soft tissue around the buccal and labial border, as well as over the posterior palatal pressure zone.

The action of the muscles as a rule is very definite, and there are two ways of making a successful denture:

* Read before National Society Denture Prosthetists, Milwaukee Meeting, 1921.

1st. Using compound and bringing firm pressure (sufficient to create a valve seal) on the soft tissues of the buccal and labial, without extending on to the muscular attachments. The margin of the denture is determined by muscle trimming.

2nd. Using plaster, or a combination of plaster and compound, and extending the plate well up on the muscular attachment, filling up the area under the lip and cheek, so that the muscular attachment as well as the soft tissues of the lip and cheek should be loosely draped over the buccal and labial border. Light pressure should be exerted on the tissues of the posterior palatal zone, and the plate should be extended slightly beyond the margin of the vibrating soft tissues.

A very slight pressure should be exerted at the very posterior margin of the plate, in the form of a turn-up end of the plate, or a bead line effect, secured by marking the model.

Class 3

In Class 3 we must consider not only the border pressure, but the proper displacement of the tissues in establishing the border pressure. In most Class 3 cases, the muscular attachments are long and low, and connecting either directly or indirectly at a point near the crest of the ridge.

The posterior pressure zone as a rule covers a large area, and the tissues are soft or resilient and can be depressed from a millimeter and a half to three millimeters. The tissues overlying this area are affected to greater or less degree by the action of the muscles of the soft palate or throat.

The amount of pressure necessary to create proper valve seal that may compensate for the movement of the denture in mastication, will depend entirely upon the operator's ability in properly displacing the tissue.

If the tissues overlying the buccal and labial are displaced toward the crest of the ridge, and the tissues overlying the posterior palatal zone are displaced toward the throat, the amount of pressure necessary in most cases will be equivalent to the resistance of a good compound at about 140 degrees, or a resistance of black carding wax heated very slightly over a direct flame, and permitted to slightly cool.

If the tissues are not properly displaced on the buccal and labial border, as well as over the posterior pressure zone, the results will be temporary, whether the pressure is light or heavy. The writer has found no way of actually determining the amount of pressure that is necessary to eliminate the trouble that some have experienced in making what has been commonly known as "Temporary Fits."

These "Temporary Fits" are often the result of extending the border of the plate too high on the muscular attachments, and too great a

pressure on the soft tissues at the margin of the denture. "Temporary Fits" can only be avoided by exerting the proper amount of pressure on the soft tissues at the base of the muscular attachments after the margins have been trimmed by the action of the muscles.

Class 4

Recognizing that Class 4 deals only with that type of patient having a soft ridge or tuberosity, we necessarily include tissue conditions for the vault and ridges as indicated by Classes 1, 2 and 3, and apply the same relative thought to the bearing on the pressure zones that has been indicated above by the respective classifications.

The important factor in the successful impression for the Class 4 type, is to displace the ridge or tuberosity toward the center of the vault, as well as the muscular attachments and soft tissues connecting to the flexible ridge in the same manner as was indicated above for the Class 3 type.

To indicate clearly the reason for the above, it would be necessary to describe in detail the impression technic necessary to accomplish the desired results, but as this would necessitate our deviating from the subject assigned, and take too much of your valuable time, I will endeavor to cover only the essential steps.

Presuming that the ridge in the area of the six front teeth is soft and flexible, it will be necessary for us to take our impression, forming the material so that it will flow towards the crest of the ridge (Imp. of labial border not necessary). This precaution will tend to properly displace the tissues of the vault and buccal border, but will *improperly* displace the tissues of the labial border and the soft ridge.

Remove the portion of the impression overlying the labial border, and *scrape out* sufficient of the impression in contact with the soft ridge lingually, so that when pressure is brought to bear on the *base plate* it will not cause the ridge to move or cause the tissues to turn white.

Plaster Technic

The impression can be completed and the tissues properly displaced by using either plaster or compound. If using the former, a very small amount of soft plaster can be placed on the impression surface in contact with the lingual portion and the soft ridge, the impression placed in the mouth, and after being thoroughly seated an additional amount of soft plaster placed up under the lip and cheek to complete the buccal and labial portion of the impression, squeezing out any excess by very slight pressure of the lips and cheeks, to reduce them to their natural position.

The posterior impression of the plate must extend sufficiently far back in the movable tissues and the soft palate, and sufficient pressure

brought to bear at the margin so that the denture will not break suction when pressure is applied over the area of the six fronts.

Compound Technic

This type of case can be handled more successfully by using the compound technic, and proceeding as follows:

After making the basic impression, remove the labial portion of the impression, and scrape away the portion in contact with the soft ridge until it is not affected in any way when pressure is brought to bear on the base plate.

Mount the bite block so that the patient can hold the base plate in position (with the mouth closed). Heat the compound directly under the area of the soft ridge and movable tissue, place the impression in the mouth, and having the mouth closed firmly bring pressure to bear over the lips and cheeks, so as to carry the soft ridge downward and backward sufficiently far to make an impression of the tissues covering the lingual surface to the crest of the ridge (the movable tissues over the forward third of vault).

After this has thoroughly hardened, an additional piece of very soft compound should be united to the margin and extended to approximately reproduce the buccal contour and the impression quickly placed in the mouth and properly muscle-trimmed while it is still in this soft state. When the compound is assuming a semi-hard condition (what is known as the plastic state), firm pressure should be exerted over the lips and cheeks so as to bring pressure on the soft tissues overlying the labial border. When this has been properly completed, additional material should be placed over the posterior palatal zone (called post damming), to bring sufficient pressure on the tissues of the soft palate and extending between 1/16 and 1/8 in. beyond the border of the hard palate, so as to press on the tissues of the vibrating soft palate sufficiently firm, that when pressure is brought to bear over the area of the six fronts the denture will not break contact in the rear.

It is my sincere desire that the vague suggestions as indicated herein, may be of sufficient value to you to consider the time well spent in listening to it.

Summary

Tissue conditions vary so greatly in the mouths of patients that it is impossible to state a technic or a combination of technics that will give the best results in all cases; hence it resolves itself into a personal equation, and it is the duty of each operator to study the tissue conditions in each mouth before proceeding with an impression, and apply the least amount of border pressure on properly displaced tissues that will permit the denture to move slightly in functioning without breaking contact with the soft tissues around the entire periphery of the denture.

Reciprocity—Another Angle

By C. M. Woodward, Pasadena, Calif.

I have just finished reading in the March edition of the DENTAL DIGEST the able article on "Reciprocity," by Dr. Julius L. Bischof of East St. Louis, Illinois. Since Dr. Bischof chose to direct the sharp edge of his essay toward the California State Board of Dentistry, I as a loyal Californian and an admirer of the members of the Board, feel it my duty as well as a pleasure to present the other side of the question. I feel that I can demonstrate that Dr. Bischof is mistaken in some of his assumptions, and that he has attacked the whole problem from the wrong angle.

I wish it understood there is nothing personally directed at Dr. Bischof, in the following remarks:

I hold that he has stated the case as he honestly sees it; it seems necessary to mention the Doctor's name in connection with his article, in order to identify it for those who may wish to review his side of the case.

In the first place the proponents of national reciprocity are influenced by, and base their whole argument on, the erroneous conclusion that the present State Board system is solely an instrument for exclusion, and maintained only as a barrier to prevent able practitioners from moving into desirable localities.

A little sober thought will prove to anyone the fallacy of that premise. Consider why the State Boards were formed. They were offered as a remedy for the deplorable condition in which the profession found itself a few years ago. The lack of regulation allowed any incompetent or charlatan to set up a tooth-pulling establishment at a moment's notice, and create havoc on a defenseless public. In such degraded company there was no incentive for the ambitious young man to enter the profession, and there was no means for coercing the lazy ones into proficiency. Therefore, since the Nation was not sufficiently interested to interfere, the States one by one formed Boards of Examination, which in turn formulated certain requirements of education and skill that must be met by all who would profess to practise Dentistry thereafter. These requirements have become more exacting as Dental education has advanced.

Since ex post facto laws are prohibited by all the State Constitutions, bona fide practitioners at the time these dental laws were passed upon registration were given licenses without examination. This was done regardless of their lack of education or training.

In many of the States the Board is a comparatively recent institution; thus there are still in practice many who are wholly incompetent to turn out even passably good dentistry. These men have perfectly

good licenses in their own States, and under the whole-hearted reciprocity for which Dr. Bischof pleads, they would be free to depart from the State in which they are now more or less limited, being known for what they are, and transport themselves to a new field of endeavor where they may either start advertising, or get good wages working for an advertiser. Is the desire to prevent such a condition the selfish motive that Dr. Bischof mentioned?

There is also the parallel problem of the very large number of dentists who passed their Boards when the requirements were very low. It is true that a number of them have kept pace with the profession—they are the leaders of the profession today—they have no fear of the State Boards; in fact, they are usually proud of the number they have taken and passed, but the other nine-tenths, the submerged majority, secure in the thought that they would not have to take another examination have settled down into the rut of the "easiest way," and have refused to imbibe any new ideas or better methods while "the moss grows green all around."

It is against the unlearned and the unprogressive and against them only that the State Board serves as a barrier. Admitted, it is not the ideal way to meet the problem, nor perhaps in all cases the fairest, but it must serve until a better plan is forthcoming. Unrestricted reciprocity is certainly not that better plan. The reciprocity advocates maintain it is unjust that a man entitled to practise in one State cannot practise in another. Is it not nearer the truth to state that it is unjust that if not qualified to practise in one State, should be allowed to practise in another? Rather than to abolish State Boards it would be to the advancement of the profession to require examination on changing offices from one locality to another in the same State, or better still, to make a periodical examination requisite to retention of a license. That, of course, would be a hard blow to the pride of some proud Doctors, to place us in the same category with teachers and railroad engineers, and others who have the welfare of the public in trust. But it cannot be denied that it would make us keep up with the times.

I am not offering the above suggestions seriously, as I am aware there is a too large majority of the profession who are afraid of such an examination to conceive of its ever being adopted. The men who favor reciprocity and are so ready to impute selfish and unworthy motives to the States which reject it, are they indeed so altruistic themselves? Is it that they wish to aid their poor war-torn brethren to earn a living in a healthful land, or is it for themselves that they wish to pass a law whereby they may leave a locality where they can get by with a second-rate brand of service, and move to another State without first proving their ability to give good service?

Since the California State Board seems to be the particular thorn

in the flesh, I wish to state that I believe I quote every fair minded man who ever took that Board, when I say that anyone who is really fit to practise Dentistry can pass the California State Board with a good mark. That this is true is proven by the fact that from eighty to one hundred and fifty pass the Board every six months. At the December Board at least 90% are outside dentists. The allegation that California is attempting to exclude reputable practitioners is refuted by the warm welcome given to any and all capable men who set up practice in that State. It would be nonsensical to discourage dentists from settling in California, since the rate of increase in population is far in advance of the influx of dentists from the colleges and from other States.

If it were actually true that the right to practise dentistry in one State were ipso facto proof that the holder of said right were competent to practise his profession, there would be no argument against reciprocity, but since the holding of a State License is not proof of proficiency there is no argument for it. If a non-retroactive reciprocity law were proposed for the entire Nation, that is, a law which would allow the freedom of the country only to those who could pass the National Board, we may rest assured the California State Board, backed by the profession in California, would favor it one hundred per cent. But any free-for-all (or as it has been called "whole-hearted") reciprocity plan such as is being advocated in many States is certainly a menace to the standards of better dentistry maintained in California. Who can blame the California Board for the attitude it takes?

A statement was made to the effect that the State Board does not exclude the advertising element. The most prominent advertiser on the Coast is quoted to sustain that statement. If that statement is true it is difficult to understand why this same advertiser went down into his pocket to the tune of several thousand dollars to sponsor an initiative bill in 1920 proposing to repeal the present dental law and substitute one allowing bona fide dentists of other states to practise in California without examination. That the people of California are behind the State Board in its attitude toward reciprocity is evidenced by the decisive defeat dealt the anti examination bill.

In the Eastern states the situation is such that reciprocity of one kind or another would not make much difference. There would be about an even exchange of both desirable and undesirable dentists and not an alarmingly large number of either. In the Western states the case is different. The tide would practically be all one way, with the inefficient and old and invalid ones in the majority. As matters now stand those who are desirable and capable can and do get in. The others cannot without bringing themselves up to standard.

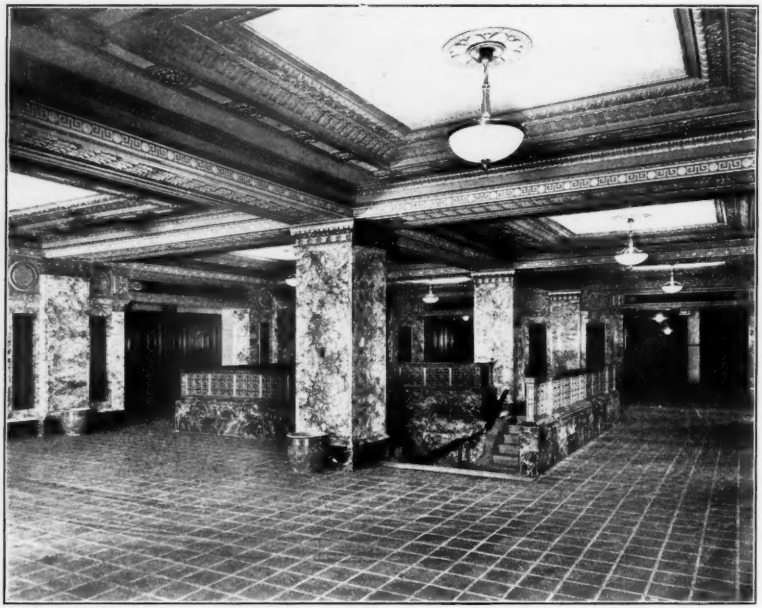
307 Dodworth Building.

The Cleveland Meeting of the American Dental Association

By Otto U. King, Sec'y-Editor, Chicago, Ill.

Plans have been perfected for the 65th annual meeting of the American Dental Association. This meeting will be held in Cleveland, Ohio, September 10th to 14th, 1923. Cleveland has the facilities for staging a great constructive scientific program.

Each administration of our Association during the last ten years has accented some definite things which have brought progress to dentistry. The Cleveland meeting will magnify the immensity and soli-



Cleveland has a $6,000,000 Auditorium well suited to the holding of meetings such as the American Dental Association. This picture shows merely the Foyer.

darity of organized dentistry, and also present a meritorious program of scientific and practical knowledge.

There will be presented at the various sessions of this meeting one hundred and twenty papers, five hundred clinics and a scientific exhibit which will stress the progress that has been made in dental health.

This dental health exhibit will be the consummation of all of the newer ideas that have been put into practical service in the various

types of individual, school, public, industrial, municipal and other public clinics. The diet problem, insofar as it pertains to health from the dental standpoint, will be visualized in various types of clinics that are now in operation in this and other countries. The industrial phase will be stressed in several fine clinics and exhibits. There will be automatic moving picture machines in constant operation, together with the continuous motion picture presentation of dental films. These motion pictures will be given on a regular schedule program for each day's session of the meeting. The official program will announce the time of the showing of each reel.

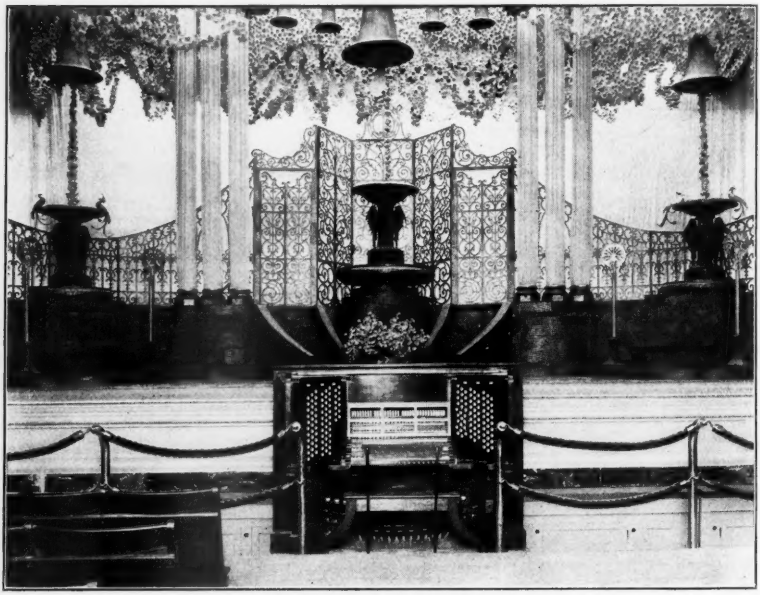
Fourteen thousand square feet have been allotted in the great mu-

Interior view of Cleveland Public Auditorium. The seating capacity of this room is probably ample for any demands we can make upon it. The stage and organ console are more plainly shown in the next picture.

nicipal auditorium (costing $6,000,000) for this exhibit and already the Council on Mouth Hygiene and Public Instruction is pleading for more space to take care of the requests coming from every section of the country. Everyone interested in educating the public should plan to carefully check up on the many unusual and practical ideas that will be suggested in this exhibit. Do you want to know how to proceed to install a dental clinic in your school, or in fact, any kind of a clinic?

This exhibit will satisfactorily answer this and many other questions and also give you a practical working knowledge of every phase of this educational work.

In this great municipal auditorium will also be staged the largest dental exhibit in the history of dentistry. One-third more space has been allotted to exhibitors than heretofore in any dental meeting. Every dental exhibitor who has something to sell will be represented at Cleveland. More space was sold in the forty-eight hours following the mailing of the announcements than we have sold in many previous meetings for the entire exhibit. Every foot of available space will be sold several months before the opening of the meeting. At this meeting will be



View of stage with organ console in foreground, Cleveland Public Auditorium.

given such an unusually practical and educational presentation of the exhibit side of dentistry, that it will be a liberal education in itself to visit these exhibits.

There will be seven scientific section programs presented. Each section will hold four half-day meetings. The Sections on Mouth Hygiene and Research will be held in the Auditorium. The Section on Orthodontia and Periodontia will hold its meeting in the ballroom of the Statler Hotel; the Sections on Partial and Full Denture Prosthesis

at the Winton Hotel, and the Section on Operative Dentistry at the Cleveland Hotel. The Oral Surgery Section, together with all meetings of the Board of Trustees and House of Delegates, will meet at the Hollenden Hotel. Ample space has been reserved for each section meeting. This assignment of space has been made in such a way that no section will in any way be interfered with by other meetings. (This information will give those who are interested in particular sections to make their reservations at hotels convenient to the meeting places.)

The four general session meetings will be held in various large halls and theatres. Some of the men who are making history in public life today have been invited to participate in the program to be presented at these general sessions. What could be more advantageous to our profession and the lengthening of human life than to discuss in these general sessions the problems that have been assigned—namely, Cancer, Diet, and the National Dental Health program.

A new and improved method of registration at this meeting has been approved which will establish a precedent in facilitating registration and also the presentation of information relative thereto.

Some new phases will be presented in the clinic program. There will be four types of clinics: (1) Each State will be invited to present as many clinics as it has delegates in the House of Delegates. (2) Since Ohio is host to our Association this year, this Society has been invited to present fifty clinics, and they have already accepted this invitation and are preparing their program. (3) Every section will be invited to present section clinics. (4) There will be a large number of group clinics. These clinics are being given in such a way as to cover the various fields of dentistry. All clinics will be given at the municipal auditorium.

Reduced railroad rates have already been secured from all the railroads in the United States. In fact, the date has been advanced to Monday, September 3rd (Labor Day) which will prove to be quite an attractive feature to those who desire to leave several days prior to the opening of the meeting on September 10th. This will be a particular advantage to those organizations that will meet in Cleveland the week previous to the American Dental Association meeting.

Ideas are the keys which open the storehouses of possibility. Ideas are the passports to the realms of great achievement. No dentist can afford in these days of change and opportunity, to spend time and money in working out for himself experiments that have already been made; in developing ideas that others have already developed and paid for. Cleveland will be the real hub of the wheel or the fountain head of practical and scientific ideas. I trust that your great state may be well represented.

The June or July issue of the *Journal* of the American Dental

Association will be known as the *Cleveland* number and will be a real "blue book" of the 1923 meeting. In it will be published the completed program with all other information incident to the successful staging of the meeting.

The slogan for the Cleveland meeting is

"PREVENT, CONSERVE, PROGRESS."

A Picture History of Dentistry

By H. H. Manchester, New York, N. Y.

VI. Progress in the 17th Century

The increased interest in dentistry in the 17th Century is proved by the greater number of booklets given over to the subject, and the greater space allowed it in medical works.

The quality of the booklets was none too high. Gilles, for example, published in 1622 in Paris, a booklet, the title of which may be translated as "The Flower of Remedies for the Toothache." As the name implies, it was merely a collection of old and unscientific recipes.

Though Strobelberger was the doctor of the royal baths at Carlsbad, his "Complete Treatise on the Gout in Teeth," which was written in Latin, consisted mostly of similar remedies. He makes one remarkable statement in declaring that though some of these were worthless, they acted on the imagination of the patient. He advised patients to go to doctors rather than tooth drawers, for the unique reason that tooth drawing required such skill that only a few possessed it.

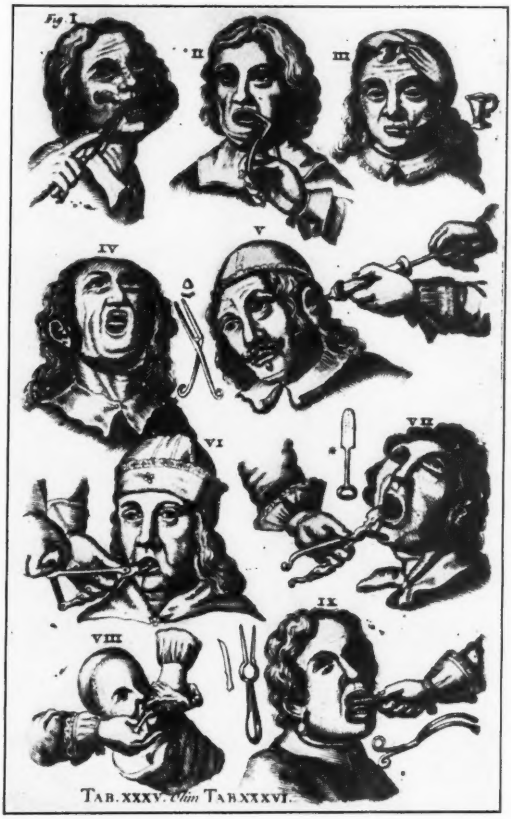
In 1632 Cintio d'Amato published in Italian the so-called "New and Very Useful Practices of the Diligent Barber," in which a number of treatments for the teeth were described. This is pretty good evidence that the barbers, or rather barber surgeons, were doing part of the work now performed by dentists. This is also proved by the fact that the guild of barber surgeons in London licensed some of their members to deal with the teeth.

On the other hand, the business was by no means entirely under their control. There were also physicians who worked on the teeth, and there were tooth-pullers who did practically nothing else, usually operating in public at fairs or markets. And there were also, as indicated in our previous article, a few men taking up the business here and there who might be called crude but genuine dentists.

Interesting advice was given by Dupont in 1633, when he declared that teeth, the pain from which was unbearable, might be extracted and

immediately replanted. The suggestion of Fabricius Hildanus, the German surgeon, that the tooth should be examined as the cause of neuralgia and fistula, foreshadows some of the present day diagnoses.

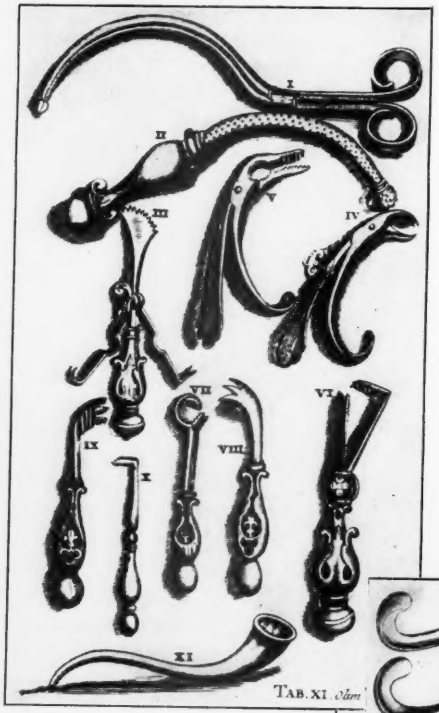
He wrote of the bad effects of *aqua fortis* in cleaning the teeth, though it had often been recommended. It is important to note, however, that the alchemists and chemists of the period used *aqua fortis* as the term for muriatic acid.



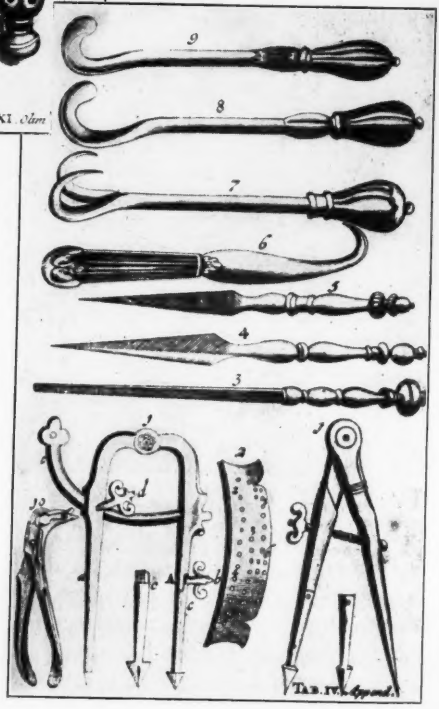
Operations illustrated by Schultes (1595-1645).

We are reproducing several of the plates from the work of Johann Schultes (1595-1645) a physician at Ulm. The dental instruments pictured by him, include cauterizers, pelicans, various forceps, elevators, dilaters, scrapers, files, and a funnel.

Another of his plates illustrates cauterizing, drawing a misplaced



Nos. III to XI are dental instruments in Schultes' work.



Instruments illustrated by Schultes, including dental files and forceps for the roots of the teeth.

tooth, separating the teeth, viewing the interior of the mouth, and operating on the mouth.

Among the dentifrices advised by Lazarus Riverius (1589-1655) were tobacco ashes and alum. Remarks of his show that bleeding for the toothache was then common. Remedies were also injected into the ear, for which purpose vinegar and a mixture of garlic juice and theriac were recommended. He considered the oil of boxwood better for the toothache than that of cloves or camphor. Where the nerve was exposed, he thought it should be killed by cauterizing, and if extraction were necessary, he believed it could be made easy by the use of helleboraster.

The Charlatan, by Jan Steen (1626-1679).

In 1651 Nathaniel Highmore, of England, discovered there might be a communication between the maxillary sinus, or antrum as he called it, and the mouth; but he thought a discharge from the maxillary sinus was natural.

Perhaps the first record of the use of models in dental prosthesis is given by Matthias Gottfried Purmann (1648-1721), a physician at Breslau. This is in part as follows:

"The front or pronouncing teeth when missing should be replaced with artificial ones. . . . For this purpose one may previously fashion a model in wax, reproducing the special formation of the teeth and jaws in order afterwards to use it as a pattern in making and

nicely adjusting the whole. When the bases of these teeth are well fitted to the jaw, and small holes have been made in the artificial teeth as well as in the natural ones next to them, one places the artificial teeth in the existing voids, and fastens them, as neatly as possible, with a silver wire by the help of pincers."

In 1671 Tommaso Riccio published another edition of d'Amato, in which he praised the dental art of the master barber.

A distinct advance was made by Anton Nuck (1650-1692) when he found that artificial teeth made from the teeth of the hippopotamus retained their whiteness far longer than those made from ivory. He believed in cauterizing decayed teeth, but in order to localize the treatment did this through a tube.

An idea of the popular remedies still in vogue is given by the more general medical works of the time. Thus "The Choice Manual of Rare Secrets" directs—

"To make the Teeth standfast: Take roots of Vervine in cold wine, and wash the teeth therewith."

A prevalent belief in worms as a cause of toothache is illustrated by the following from the "Family Dictionary," published in 1695:

"Tooth not Hollow: If there be no hollowness in the tooth, or visible defect, and yet it aches, take the root of Black Hellebore, commonly called Bear's-foot, scrape off the rind, and cut a pretty slice, and lay it to the tooth between your gums, and the inside of your cheek, avoiding the rheum that it will occasion, and so renew it with a fresh piece. If you fancy, by a strange sort of stirring, at certain times, that there are worms in your teeth, sprinkle some Henbane-seed and Frankincense on a pan of coals, hold a funnel, the broad end over, and let the narrow spout be placed to the bottom of the tooth that the fume may come to it; and if there be any place for them to do it, the worms will creep out; if they do not, it will, however, kill them."

The above account, we regret to say, lessens our faith in the efficacy of the following recipe for extracting the teeth:

"Tooth to make fall out: If you have a loose and troublesome tooth, or one that is hollow and offensive, that you would remove, take the shavings of Hartshorn, burn it to powder, mix with it a little slacked lime, the tallow of a ram, and the juice of a white lily and plantane-root; stop it into the tooth, in a rag, if hollow, or otherwise lay it to it between the cheek and the gum, and it will in a little time, fall out without any pain at all."

The Relation of the Condyle Path to the Curves of Occlusion*

Summary of an Address by J. Leon Williams, D.D.S., L.D.S., New York

(EDITOR'S NOTE.—The author of this paper believes that the positions of the natural teeth are most permanent and the functions most efficient when the curve of occlusion, as shown by the occlusal surfaces of the teeth, is concentric with the forward inclination of the condyle path peculiar to that person. He believes that the tendency of many teeth to "wander," after having been placed by the orthodontist, may be due, in part at least, to the fact that the curves of occlusion and the condyle path are not concentric in action. He thinks that it might be worth while for orthodontists to investigate this relationship with the thought that if the condyle paths were taken into consideration when correcting malpositions of the teeth and condyle paths and occlusal curves made harmonious, the orthodontist would find a minimum of difficulty in retaining teeth in position because nature would work for the retention of that position rather than against it.)

As the result of a talk which I had with Dr. Waugh some time ago, the following letter was addressed to a few leading orthodontists:

"Dear Doctor:—

I am preparing a short paper on the relation between the rotation points of the mandible and occlusion. While my objective is the application of certain principles to the practice of prosthodontia, yet, if my point of view is correct, these principles are equally applicable to the practice of orthodontia. My main contention is that it is desirable to attain *symmetry of form and arrangement of the teeth on both sides of the jaws* with the view that such symmetry would conduce to the greatest ease and freedom of movement of the mandible in its lateral excursions, and also that, in orthodontia, such a condition would provide the best means for maintaining the teeth in correct relationship.

The above proposition does not necessarily involve any question as to the particular form of arch. Perhaps I should call attention also to the fact that this proposition involves rather more than would appear at first glance. It means symmetrical arrangement of the teeth without reference to *differences* in the angle of the condyle path on the right and left sides, a condition which, I understand, is largely ignored by most orthodontists.

I shall be greatly obliged for your view on this question and for your permission to use your reply in my paper."

Nearly all of the replies expressed the idea that the orthodontist is dealing with a set of problems very different from those which face the

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prosthodontist. My contention is that while many of the problems are different, the one main principle, the relation of the angle of the condyle path to the curves of occlusion, is identical for both sets of workers.

It is, of course, true, as Dr. Baker says, that living bone is a plastic structure and that you can, to a certain extent, force adaptive changes in the temporo-mandibular joint. But in my judgment the extent to which this can be done, or the success attending efforts to do it, has not yet been critically examined.

Dr. Dewey wrote, at the close of his letter: "I have often wondered why men could make such a mistake as to believe that the shape of the condyle had anything to do with the direction in which the mandible moves."

While I agree with Dr. Dewey that from the moment the opposing teeth touch each other, under conditions to be mentioned, the movement of the mandible is entirely controlled by the cusp relationship, I feel certain that his statement that the shape of the condyles and their sockets is entirely determined by the cusps of the teeth is much too radical. It is a half-truth statement. The shape of the condyles is a matter of heredity plus environment, probably about a fifty-fifty proposition. The shapes of the condyles and their sockets are predetermined. Habits of mastication during the eruption of the teeth and subsequent thereto will modify these shapes.

I imagine that Dr. Dewey did not say exactly what expresses his full and complete thought. I apprehend that a complete expression from him would read something like this. "If all the teeth are symmetrically arranged in the arch and on a curve which is in perfect harmony with the angle of the condyle path, then the action of the condyle in its socket has little or nothing to do with the control of the mandible in its various movements of active occlusion." This statement is perfectly true and it covers the important point to which this whole paper is directed. But let us see exactly what happens when the curve of occlusion on which the teeth move does not correspond with the angle of the condyle path. In my own mouth is a perfect illustration of what happens. I have a fine set of teeth, symmetrically arranged so far as their relative positions in the jaws are concerned when in resting occlusion and with normal overbite. But the instant I begin to move the mandible forward, keeping the jaws closed, all of the masticating teeth pass out of contact. Why? Because a curve cutting the angle of the condyle path passes outside of the curve on which the teeth are moving, and this inevitably throws the teeth out of contact in all forward movements of the mandible. Inasmuch as all of my upper teeth are in proper distal relationship to the lower teeth, why did not nature correct this defect in early life when the bone was in that plastic state to which Dr. Baker referred? I am told that this

condition exists in many cases of discharged orthodontic patients. Now, unless Dr. Dewey meant his statement to include all of the conditions which I have laid down, conditions which he did not mention, then in my opinion he is entirely wrong.

What are the normal curves of occlusion? Dr. Dewey quotes Angle's definition as follows: "The line of occlusion is that line with which, in form and position according to type, the teeth must be in harmony if in normal occlusion."

I have to confess that all of my best efforts to construct a satisfactory analysis of that statement have resulted in complete failure. It seems to me equivalent to saying that for every type there is a certain line to which all of the teeth must be brought to be in normal occlusion. But no attempt is made to define this line. Where is it? Some orthodontists say that this definition is so perfectly obvious as hardly to require stating. Others deny that there is any absolutely fixed line to which the teeth must be brought to realize a normal occlusion. I am not at this time in the least concerned with these differences of opinion except to point out that they reveal the very important fact that no fundamental line or curve of occlusion has yet been established as normal. Dr. Dewey's quotation from Dr. Angle is a very vague statement and, evidently, capable of a considerable range of interpretation.

What is meant by the words "normal" and "symmetrical"? The Standard Dictionary defines the word "normal" as "according to an established law or principle; regular; natural;" and adds that "symmetrical" is natural. I think we may take our stand upon that definition, that the perfectly normal is the perfectly symmetrical. Now, symmetry is not a thing that stands alone. A thing is symmetrical in relation to something else. Symmetry is the harmonious relation of anything to its balanced parts. You may have in mind an ideal arch for any given case with the mandibular teeth in perfect relation to the maxillary teeth in centric occlusion, but you will not have symmetrical occlusion unless the curves of occlusion are in harmony with the inclination of the condyle paths. The all-important relationship of the jaws is not in passive but in active occlusion. If, in forward and backward and right and left lateral movement of the mandible, the cusps maintain contact and correct cusp relationship, you have perfect occlusion, but not otherwise.

And now I shall have to speak about a discussion which has been more active in prosthodontia than in orthodontia, that is, the positions of the hypothetical rotation points upon which the movements made by the human mandible can be reproduced. There are two distinct schools of thought, one that there are two such rotation points located near the condyles, and one that there is only one rotation point, or rather, rota-

tion area in the sagittal plane. I believe that under different procedures either statement can be shown to be correct, but my argument has been strongly opposed by both schools. I am satisfied that I have shown by experimentation that when the mandible is closed against the maxilla to such an extent that the condyles are in the deepest part of their fossae, two rotation points are required to permit tracing the paths that it will make in lateral movements. But if the mandible be moved away from the maxilla sufficiently to bring the heads of the condyles a little forward out of the deepest part of the fossae, and that position be taken as the starting point for lateral movements, the rotation points for those movements will approach more and more closely to the median line until, as the mandible is moved farther downward, one rotation area in the sagittal plane will be sufficient.

Dr. Gysi and his followers work with a fairly close bite in edentulous cases, consequently they need two rotation points near the condyles. Dr. Hall and Dr. Monson open the bite much more than the men of the Gysi school. Dr. Monson says that he sometimes opens it 10 mm. It follows naturally that when they have opened the bite to this extent and brought the condyles forward, and use that position as a starting point for lateral and protrusive movement, they found that a one-rotation area in the sagittal plane is sufficient.

It has been well demonstrated in prosthodontia during recent years that, if the teeth of artificial dentures are arranged on inclinations of the condyle paths, the posterior teeth will remain in contact during all excursions of the mandible. It is not necessary or desirable that natural teeth should be arranged by the processes of orthodontia to conform to the different condyle paths sometimes seen in connection with different sides of the same mandible, but I believe it to be desirable that the teeth on both sides of the dental arch should be arranged to harmonize with that one of the condyle paths which shows the shorter radius. This can be accomplished by opening the bite a little.

(Dr. Williams then showed by means of lantern slides the method of determining the center out of which the condyle paths for any given case can be traced. He also showed that the occlusal surfaces of the teeth of some mandibles, which he had, were all in contact with the outer surface of a sphere of four inch radius. The effect of the entire paper was that it might be desirable for an orthodontist to determine the inclination of the condyle paths in each case, to establish a curve of occlusion which would be in harmony with the curve with the shorter radius, because if there is a difference, such relations would be not only more efficient, but the teeth would remain better in position after retaining appliances were removed.)

Discussion of Dr. Williams's Paper

By DR. MARTIN DEWEY

Dr. Martin Dewey began by saying that there were many things in the paper with which he agreed and many with which he did not. He then spoke in substance, as follows:

The question has been running through my mind, "Why is it necessary to have the cusps of the teeth of man in contact during excursions of the mandible?" A few years ago, there was a tendency toward a certain ideal of occlusion. Investigation showed that occlusion is not always the same in all races of man. In a minority of cases, the cusps of the posteriors will not touch in anterior excursions of the mandible. What shall we take as a normal occlusion? Must every human denture be built to conform to a certain sphere?

If the proposition which the speaker has presented is true for man, it should be true for the lower animals, because man is merely one family in nature.

We cannot expect to have all jaws and all teeth arranged upon the same curve any more than we can expect all individuals to have the same shape of head. There is a type for each individual. As you study further, you will find that we shall have to vary our definition of occlusion and not think of it simply as an arrangement of cusps, but as a functional arrangement of teeth. In certain shapes of teeth, you will find great overlap of the incisors, and the molars will not touch when the mandible is protruded.

In the dentition of the rodents, one of the most efficient ever seen, when the incisors touch, the molars do not. You cannot fit the mandibular arch of a beaver to a sphere. If you take efficiency and function as a guide to the arrangement of teeth, you will be nearer right than when you take a mechanical form.

The form of the temporo-mandibular articulation is affected not only by heredity, but also by environment and function. The form of this articulation has been handed down for years, but functional occlusion produces a change during the life of the animal. I am glad to hear the speaker say that the condyle path has nothing to do with the direction of the movement of the mandible. (At this point, Dr. Williams interrupted Dr. Dewey's discussion long enough to say that he (Williams) did not say that the condyle had nothing to do with mandibular movement, but that if the teeth were in proper position, as related to the condyle movement, the condyle had nothing to do with the movement of the mandible, after the teeth came into contact and so long as they remained in contact.) The movement of the mandible when the teeth are in occlusion depends absolutely upon the size and shape of the teeth. It has been shown that the condyle of man will

change shape during his lifetime. I have a mandible which shows loss of teeth on both sides, so that the person has developed the habit of masticating on the incisors. The condyles have developed the same form as that shown in the rodents. I have another skull in which the incisors were lost and the individual masticated upon his molars, and the condyles assumed the form seen in herbivorous animals.

The sphere may be an average for the arrangement of teeth in some people, but more cases which possess functional normal occlusion will not fit the rule of the sphere than will fit. It is not necessary that all the teeth be in contact during the excursion of the mandible and generally it is undesirable.

By DR. FREDERICK LESTER STANTON

I think the answers Dr. Williams received to his questionnaire reflect the general attitude of mind of orthodontists who are prone to take refuge in biology when they fail to grasp the relationship of mechanics to their specialty. Due to the ascendency of the "biological group," much of Dr. Williams's presentation will be lost, due to the fact that the biological orthodontist does not think in the terms of mechanics.

Students of art have found that the temples of the Greeks and Egyptians were designed on geometrical lines, a copy of nature's geometry of living things. From these temples, it is obvious that the ancients were familiar with the logarithmic spiral as exhibited by the chambered nautilus and nature's arrangement of leaves on stems (phyllotaxis).

I am sorry that Dr. Williams did not refer to the study that has been done on the symmetry of jaws and teeth. As early as 1915, the speaker and Hanau presented a paper on the symmetrical curves of occlusion in three dimensions. The interrelation of the curves had been foreshadowed by Davenport in 1888.

In a later paper, the speaker presented a method of obtaining an axis of symmetry. Normal dentures, when folded on this axis, exhibit symmetry in three dimensions.

I have no doubt that it will become routine practice to mount all orthodontic casts on anatomical articulators before treatment is started. The problems of prosthodontia and orthodontia are closely related and could be profitably studied together. I am willing to prophesy that this question of the movements of the jaws cannot be satisfactorily discussed until a craniometer is designed that can map the head in three dimensions. I believe this paper is an important and revolutionary presentation.

By DR. CHARLES A. SPAHN

I was in hopes that there would be more discussion of Dr. Williams's

paper and purposely waited until this time to speak, and if I may have permission to open the subject again, I will discuss certain points brought out in his essay.

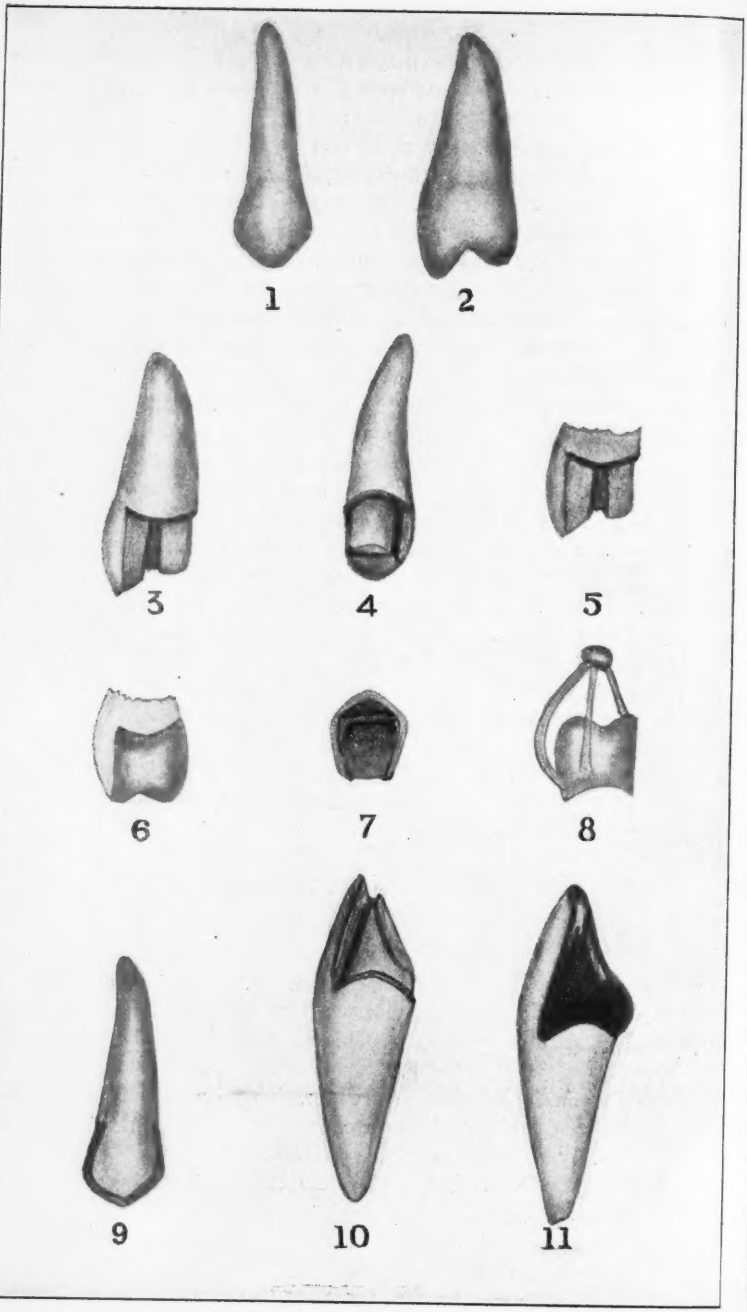
Dr. Williams made the statement that no evidence existed showing the change in the condyles on different sides of the mandible. I feel that this has been demonstrated. Dr. Cryer published a book in which he showed a difference in shape of the condyles, that on the left side being flat, on the right side very rounded. I would like to know if this was the specimen that Dr. Ketcham referred to in his letter in answer to Dr. Williams's questionnaire. (Dr. Williams said it was.)

In the year 1884, Dr. Bonwell read a paper in his office to the Odontological Society of Philadelphia. This paper was reread in Chicago and was published later in the proceedings of the Columbia Dental Congress held in Chicago in 1894, and in this published paper he has given very elaborate illustrations of the work done by him on this very circle. It is really pitiful to read and see with what earnestness he begged his fellow practitioners to take up this principle and work with it. I also believe that Dr. Williams is in the wrong regarding Dr. Monson's opinion in relation to the rotation points of the mandible. I also must differ with Dr. Williams as to his method of measuring with a pair of calipers from a point on the frontal bone to the point of the first upper bicuspid. I see no value in this method of diagnosis in cases of orthodontia, because each one of us knows how often it is necessary to expand the area between the first bicuspids, proving conclusively the great variation in their position. I sincerely believe that Dr. Williams is on the right avenue of approach to a great subject and hope that he will go on with it and give the Society the results of further investigation.

By DR. HENRY C. FERRIS

The mechanical side of this presentation appeals to me, but the biological and pathological sides would require much consideration before I could accept what has been presented. If we accept this, we have to eliminate all the principles set down by men who try to correct congenital conditions in other regions of the body. It would appear that by adopting this method, we are favoring pathological conditions rather than trusting to nature's recuperative power through the function of muscle action upon bone development, which principle of practice has accomplished so much for humanity.

I will be pleased to apply this principle in my practice in a single case for study.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Illustrated Steps in Crown and Bridge Construction*

By Anastasis G. Augustin, D.M.D., New York City

Carmichael or Staple Crown

Figures 1 and 2 show the two aspects of an upper bicuspid ready for the tooth preparation. This crown is used on any sound tooth with live pulp as an abutment for a bridge, where the display of gold is objectionable, and tooth substances must be saved. Novocaine injection sometimes will be necessary when the tooth becomes very sensitive to grinding; in thin and less bulky teeth a shoulder preparation is not recommended.

In preparing tooth, first grind from the occlusal, or the cutting edge, slightly relieving the bite; then remove all the palatal contour, mesial and distal sides as well. Now cut a horizontal groove at the occlusal or the palatal, as the case may be; following this, cut the distal and the mesial grooves; Figs. 3 and 4 show the preparation; to this fit a loose fitting copper band and take a modeling compound impression, and make an amalgam die, as in Fig. 5; with inlay wax carve crown on this die, as in Figs. 6 and 7, and invest and cast it in 20- or 22-karat gold, as in Fig. 8.

If a swaged crown is desired, after the tooth is prepared as in the cast crown preparation, fit an 18-gauge platinized gold wire into the groove and take a plaster impression with it in place; make a die in Melottes metal, and swage 30-gauge, 22-karat gold to the die and solder the wire to this half crown in 20-karat solder; Fig. 9 shows crown fitted on tooth.

Swaged crown is preferred when there is a great contour on the tooth to be ground off, as all this has to be removed in a cast crown preparation, while not so essential in swaged cases. In upper central incisors if teeth are thin, do not prepare the top parallel groove. Fig. 10 shows tooth preparation of an upper incisor, and Fig. 11 cast fitted to tooth.

An Educational Effort and What Came of It

George Wood Clapp, D.D.S., New York, N. Y.

(*Continued from April*)

Objections to the Ruling

The ruling which excluded out-of-the-state dentists from instruction in impression- and bite-taking was severely criticized by many who were excluded, because the instruction had evidently made for itself a favorable place in professional estimation. This attitude is revealed in the story of a dentist from whom we received a telegram just after the ruling had become effective and before it was generally known. The telegram read about as follows:

> "Just landed in Frisco from Honolulu and learned about your prosthetic course. Must have it. Reserve place in next class and wire date. Will be there."

A reply was telegraphed to the effect that it was no longer possible for us to receive out-of-the-state dentists for instruction in impression- and bite-taking, but that we could instruct him in articulation and laboratory technic. He telegraphed back to this effect:

> "Am told I must master the impression methods you teach. Have come to America to get the best there is. Plate work very important part of my practice. You've got to take care of me. Will it do any good if I apply to Albany for special permission?"

Our reply was that the officials at Albany were basing their acts on their interpretation of the State law, and not on animus against the work, and that they probably would be unable to make any special exception in his behalf.

The next morning brought a reply something like this:

> "Have my bag packed and am starting for New York as soon as I send this. Have come too far to be put off. You cannot catch me on the way and you must take care of me. Get ready."

About a week later a tall, determined-looking individual came into the Division and in slow, rather drawly speech stated that he had come a long distance to learn how to make plates and proposed to have us teach him. It took him about twice as long as usual, because we could give him only demonstrations, but he stuck to it with unceasing determination and we hope he got what he came so far for.

At a later period classes were organized for instruction of laboratory men in laboratory technic and were of interest to many.

Teachers Sent Elsewhere

The ban upon dentists not registered in New York State prompted many requests that teachers be sent to different localities, and in cer-

tain sections dentists undertook the work of organizing classes which would justify sending a teacher and defray the expense. In this way there gradually grew up the system of organizing such classes, sometimes at the instance of the local dental dealers, and nearly always with their active and intelligent co-operation. In this way many dentists who would otherwise have had to come to New York received the information either at home or in localities more convenient to them, and at reduced expense.

While no exact records for the entire period covered by this form of instruction have been kept, sufficiently detailed records are at hand to permit the following summary:

There have been enrolled in such classes, since the summer of 1919, two thousand six hundred eighty-nine men (2689), divided as follows:

Dentists in lecture courses (five evenings in one week)	2038
Dentists in practical courses (two weeks)	556
Men in laboratory courses (laboratory technic)	95

These men came from forty-four states, and the District of Columbia, that is, from every state in the Union except Arizona, New Mexico, New Hampshire and Wyoming.

Dentists from the following countries outside of the continental United States have been members of classes: Australia, Brazil, Canada (Quebec, Ontario, Saskatchewan, Alberta, British Columbia), China, Chile, Dominican Republic, Egypt, England, France, Hawaii, Holland, India, Mexico, New Zealand, Norway, Panama, Paraguay, Porto Rico, Salvador, South Africa, Transvaal, and Trinidad.

As the effort has always been educational rather than financial, there has been a standing offer to all dental colleges of free membership in classes for any member of the faculty connected with the teaching of prosthetics. The scientific character of the work done by Greene, Williams, Gysi and others has appealed to this class of men with such force that one or more members from each of the following dental schools accepted membership in a class: Jefferson School of Mechanical Dentistry; College of Dentistry, University of Southern California; College of Dentistry, University of California; Dental Department, College of Physicians and Surgeons, San Francisco; Colorado College of Dental Surgery; Southern Dental College; Atlanta Dental College; Northwestern University Dental School; State University of Iowa, College of Dentistry; Central University, College of Dentistry; Tulane University of Louisiana; Loyola University School of Dentistry; Baltimore College of Dental Surgery; Harvard University Dental School; Tufts College Dental School; University of Michigan, College of Dental Surgery; University of Minnesota, College of Dentistry; Washington University Dental School; Western Dental College; Creighton Uni-

versity Dental College; University of Buffalo, Dental Department; New York College of Dentistry; College of Dental and Oral Surgery; Columbia University, Dental School; Cincinnati College of Dental Surgery; Ohio State University, College of Dentistry; Western Reserve University; North Pacific College of Dentistry; The Thomas W. Evans Museum and Dental Institute; Philadelphia Dental College; School of Dentistry, University of Pittsburgh; University of Tennessee; State Dental College, Dallas, Texas; Texas Dental College; School of Dentistry, Medical College of Virginia; Royal College of Dental Surgeons of Ontario; Laval University, School of Dental Surgery.

Sentiment in the Dental Profession

Sentiment in the dental profession has been rather sharply divided. There has been a large group of men which has recognized an effort by The Dentists' Supply Company to be merely a helpful fellow worker and to go out of its way to assist in making possible the greatest degree of success in this special field of professional work. Since the beginning of this form of instruction probably four thousand of these men in all have availed themselves of the instruction and have greatly improved their technic, even if they have not carried it quite so far as the instruction indicated that it might be carried. Many of them have written to the Company words of appreciation, because they were able to place at the disposal of their patients better denture service than would otherwise have been possible.

There has been also a group, usually small in number, but vociferous, which has objected to the entrance of a manufacturer into the dental educational field. They have said, rightly enough, that the province of the manufacturer is to manufacture and not to teach dentists how to render professional service. It is not desired to contradict that statement, but a brief explanation may set the matter in a different light from the one given it by their position. The Dentists' Supply Company had never thought to enter the dental educational field. Soon after the introduction of anatomical forms of bicuspids and molars, in 1909, it developed that dentists did not know how to arrange properly formed teeth to give to the patients the advantages of which the teeth were capable. They had never had correctly formed teeth. There was no general instruction in sound principles of articulation. When Dr. Prothero taught the writer how to carve the occlusal curves in the wax bite rim, it became immediately apparent to the writer that if this information could be imparted to dentists in general, it would go far toward solving the problem of the proper use of artificial teeth and would secure to the patients the service of which they stood in need. The writer was entirely unknown and he suffered the handicap of being employed by a manufacturer. He could, therefore, not appear on the

programs of dental societies, but the Company took space among the dental exhibits, and at many local and state meetings he gave continuous table clinics in the taking of the bite by the Christiansen method, the carving of the bite rims and the arrangement of the teeth to facilitate articulation, balance of the dentures and increased efficiency, as taught by Dr. Prothero. It was not uncommon for these clinics to be thronged from morning till night, sometimes to such an extent that not a moment could be had for rest or refreshment.

The writer distinctly recalls the occasion when, at a meeting of the G. V. Black Club in Minneapolis, Dr. C. N. Johnson brought Dr. G. V. Black to the clinic. After listening to the essentials, Dr. Black said, "Dr. Clapp, that is a good thing. The more dentists you can teach that technic to, the better off they will all be."

On another occasion, Dr. G. V. Black suggested that we might complete the adaptation of the dentures, one to the other, after they were in the mouth, by the method which he adopted for fitting his own denture. He put an abrasive between the occlusal surfaces of the teeth and ground the upper plate to fit his lower teeth. From that day forward his suggestion was a part of the instruction. In fact, much of the instruction was built up as the result of suggestions received from members of the profession.

The Company furnished the first chair in the writer's office at the writer's request; it agreed to meet the expenses of the Gysi courses at his suggestion and it permitted the development of every other step at the writer's suggestions, which were cordially endorsed by Dr. Williams, Professor Gysi and Dr. Tench.

The Company has made no commercial capital of the school and there has been no advertising of it, save one or two small announcements in one or two dental society programs. No dentist who came has ever been asked whether or not he was a customer of the Company. No effort has been made to sell him anything while under instruction or in the Research Division, and he has been as free to apply the knowledge to the use of merchandise of other manufacturers as he was before he came.

During the entire history of the undertaking, the fees have been kept as nearly within the reach of dentists of moderate means as possible, and have always been far less than the cost of instruction. If the total expenditure for the school be compared with the fees, it appears that each dentist paid somewhat less than half of the amount that his education cost.

If there is blame for this undertaking, it belongs to the writer, who was responsible for its inception and administration. If there is credit, it belongs, in no small degree, to the Company which has furnished large sums of money for the undertaking and has permitted much

valuable time and effort to be diverted to this which might have been more directly profitable if confined to its principal line of business.

Teaching Discontinued

All this is now finished. By the time that this appears in print, arrangements for the last course will have been completed and most of the teachers will have gone their several ways. Dr. Tench is in practice in New York City. Dr. Schlosser has become professor of prosthetic dentistry at Northwestern University Dental School, and is giving courses to undergraduates and practitioners there with satisfaction to all concerned. Dr. Heermans conducts his own laboratory in Chicago. Dr. Wilbor is connected with the Dental Department of Columbia University, and Dr. Asche is practising in Newark, New Jersey. Dr. Turner is now finishing work already planned. Dr. Harris is practising in New York State. Dr. Weir and Dr. Whittemore are engaged in special work for the Company.

Now that the dental colleges and individual practitioners are making it possible for dentists to get instruction in scientific denture making, The Dentists' Supply Company willingly withdraws from this form of effort, which it made only at the writer's suggestion and at the request of many members of the profession, and only for a time when there was no provision in the dental educational system for imparting such instruction to practitioners.

Tightwads and Education

A "tightwad" is described by the Government as a man who saves 60 cents of every dollar and spends 37 cents for living expenses, and one cent each for education, recreation and giving.

Through a little book, entitled "How Other People Get Ahead," the Government Savings System is endeavoring to interest the American people in thrift.

The spendthrift saves nothing, spends 58 cents of every dollar on living, 40 cents on recreation and one cent each for education and giving.

The thrifty man saves 20 cents, spends 50 cents on living and 10 cents each on education, giving and recreation.

Building Better Boys at Camp Roosevelt

(Specially Written for DENTAL DIGEST)

Every summer camp should have a definite aim, and its activities should tend toward the accomplishment of this aim. The making of good American citizens should be the chief aim of every camp, and the activities should be shaped with this end in view, and not merely to provide recreation, diversion and amusement during the school vacation period, although these features should be given a definite place in the program. The value of recreation is not to be disregarded, but that aim alone would fail to justify the time and money consumed at the summer camp.

Recreation, in the popular sense, means the things which one enjoys and which lie just outside the sterner duties of life, such as school work. Play is sweeter when it comes as a surcease from work, and play hours should be pleasantly sandwiched between work hours.

A Game of Volley Ball.

There are two classes of exercise—haphazard and systematic. Haphazard exercise is that which comes incidentally in play or work and is apt for that reason to become incomplete. In times now almost forgotten, the daily work and recreative pastimes of youth were sufficiently strenuous to give the boy an agile, supple, well-trained body equal to any physical emergency, but the highly specialized manner of living, which is now the rule, has made symmetrical physical development rather difficult except through a course of exercise which is definite in its plan and scope. Out of a national necessity for symmetry in physical development, has grown the science of Physical Education, a branch of education that is almost as highly specialized now as law or medicine or dentistry. Boys may now share the benefits of all-round physical development by attendance upon gymnasium classes. In the Chicago

public high schools, physical education has attained a high standard. This branch of education must be carried over into the summer camp curriculum.

The Chicago public high schools have also inaugurated the most unique form of summer camp which has yet been tried out, Camp Roosevelt. Located but a short distance from Chicago, on Silver Lake, near LaPorte, Indiana. Here a program of work and play is maintained, which is designed to benefit the boys who attend in every particular—health, morals, and character. Major F. L. Beals, the founder and directing head of the institution, established the camp as a living

Swimming in Silver Lake is great sport.

memorial to that great American whose name it bears, to carry out his ideas for boys—to work hard, to play hard, and to be on the square.

In order that this program could function effectively, Major Beals divided it into three sections—the summer schools (which embrace seventh and eighth grades, and all high school subjects); the R.O.T.C. for older boys, who prefer the physical program, and the Junior Camp for the smaller boys. The schools are operated on such a high scale of

efficiency that they have been annexed to the Chicago public summer school system, and the Indiana State Board of Public Instruction has placed them on their accredited list of schools. More than one hundred school instructors, military officers, Y.M.C.A. secretaries, American Red Cross representatives and Chicago Dental Society representatives assist Major Beals in this huge boy-building undertaking.

Being in the nature of a public institution, boys from all parts of the country are eligible for attendance. However, because of the increasingly large attendance, it is found necessary to somewhat restrict the enrollment, to fit the accommodations. Any clean, moral boy of ten years of age and over may be admitted, and, in order that no discrimination may be shown, boys will be accepted in the order of their application to the Camp Headquarters, care of Chicago Board of Education, Chicago.

Men and women who are interested in the development of growing boys would do well to investigate the Camp Roosevelt Plan, which embraces the most advanced theories for making better American citizens of our growing boys, whose finished products are making their influence felt throughout the whole United States.

Candy and Tooth Decay

By G. A. Bronson, D.D.S., St. Louis, Mo.

I wish to call your attention to a case that crossed my path as early as 1880, the like of which I have never seen duplicated or even of a variety that might be classed with this one.

The subject was a well-built employee, thirty-eight years of age, of a large sugar refinery in our city, whose duty it was to test boiling sugar out of the vats all day long to guide the boiling and crystallization processes.

His teeth originally had been more like what we often find in the colored race. A full complement of large, solid and very regular teeth in a roomy, uncrowded arch.

But, now comes the vital point, there was not one of them that had remaining more than one-half the fullness of the original crown, each one being a more or less conical stump somewhat superficially decayed and softened, but without well-defined cavities; more like what you might have from spraying the inverted teeth with an acid that might wash away and round off the corners, leaving a good vital and coned stump.

My reply to the patient's query as to what I could do for him was, "will fix you up the finest kind with thirty-two gold crowns for $500."

This was shortly after the discovery of the gold crown and we had

ceased fearing a large hole in the grinding surface through which to pack amalgam around screws and into cavities and undercuts to hold the crown on coping, from which we advanced to the stage of cementing the crowns on a well-prepared foundation of silver.

I felt I could make the crowns quite fine at this date, for I had just completed what was undoubtedly the first set of dies, eighty in number, to strike up the grinding surfaces, which I am using today if I do not cast.

So candy and decay to me have been synonymous terms for forty-two years.

Rare Old Porcelain

By Arthur "Bugs" Baer

TEETH ARE NATURE'S gift to man. False teeth are man's gift to himself.

MANY WOMEN'S TEETH are like pearls. They can take them out and string 'em about their necks.

THEY FOUND NO teeth in King Tut's granite boudoir. Indicating that home cooking was no better then than it is now.

WHEN OUR ANCESTORS lost their ivory choppers they lost them forever. But now when your thirty-two keystones drop loose, you can replace them with painless snappers.

THEY ARE MADE out of porcelain like kitchen china and come in uppers and lowers, like Pullman berths. Counterfeit biters are better than your original sausage grinders, because they never play you false.

IF THEY HAPPEN to hurt you, you can suspend them for thirty days. Of course there are some instances of people being strangled by their false molars, but then there are more cases of people being hung by their own tongues.

NAPOLEON, CAESAR AND GEORGE WASHINGTON all had synthetic meal daggers. In those days they made all bogus teeth out of gold. They were useful by day and ornamental by night.

GOLD IS CONSIDERED bad taste nowadays. If your mouth looks like the Sub-Treasury, your jealous neighbors think you are vulgar. But we must take good care of our natural food crushers, because if Congress continues to chop down our army and navy, only protection we will have against Europe is our teeth.

DENTISTS ARE OUR best friends. We should consult dentists six times every year, whether we need their work or not. After first visit you will need it.

ANY DENTIST WHO could find flaws in Koh-i-Noor diamond, could discover cavities in burglar-proof vaults, and could detect gum trouble in marble bust of Alexander Hamilton.

MAN IS ALLOTTED two sets of real teeth and as many false ones as he can afford. This rule of Nature makes your third set most reliable. Still, it is a terrific shock to any man who falls in love with girl's beautiful hair, complexion and teeth, only to discover that she is bootlegging on Nature.

THERE IS NOTHING more beautiful than nice teeth, in or out.

WE SHOULD TAKE good care of our teeth when we are young. Scrub them well and place them in a glass of water every night.

SPEAK ONLY KIND words through them. When you figure how many grouches there are in this world, you wonder why more false teeth don't turn on their owners and bite them.

Trifacial Neuralgia*

By Dr. Edward L. Hunt, New York, N. Y.

(This report is neither official nor complete. It represents the impression made by the essayist's paper upon one in the audience.—EDITOR).

It is a great source of pleasure and profit to be present at a society meeting when the essayist is not alone master of his subject, but speaks clearly and distinctly. Dr. Hunt certainly fulfilled both these requirements, and the section of Oral Surgery of the First District, N. Y., may well be proud of having been addressed by so able a man.

The first and probably the most important point which the essayist made was the division of trigeminal or trifacial neuralgia into two classes, namely, true trigeminal neuralgia, and facial neuralgia.

The former is not very frequent, and the cause or etiology of this condition is still unknown. Simple facial neuralgia, on the contrary, is quite common and usually due to a diseased tooth or root or some other source of fugitive pain which may finally be traced and eliminated. Remember then, that if every precaution has been taken, the patient carefully studied, and all tests made, with no indication of the probable cause, you may have a true case of trigeminal neuralgia.

The British call it Feathergill's disease; to the French it is known as tic doulereux. As already stated the most ardent efforts of scientists have failed to determine the origin of this dreadful malady, and its treatment continues to be a perplexing problem.

Autopsy reveals nothing. The Gasserian ganglion, upon removal and microscopical examination discloses no variation from that taken from normal subjects.

Sex and heredity play no part in trifacial neuralgia. It is interesting to note that this condition is practically unknown among colored people.

The paroxysm of pain attending an attack of neuralgia of the true type is never steady. It is sometimes likened to the stab of a needle. Those afflicted can usually tell when an attack is impending. It may continue for a second or a minute and occur repeatedly, leaving the victim frightened, exhausted and discouraged.

In this condition, patients will never allow anything to touch the face, as such action often provokes an attack. Such areas are known as trigger zones.

As a rule, but one side of the face is affected. Of the three divisions, the second and third are usually involved, the first rarely. As time goes on, the paroxysms become more frequent.

*Read before the Oral Surgery Section of the First District Dental Society, N. Y., January 1, 1923.

Facial neuralgia, as distinguished from true trifacial neuralgia, is due to some definite cause such as impacted teeth, carious roots, antrum involvement, exposed nerves, and similar dental conditions. Eye strain, rheumatism or anemia might also provoke an attack of neuralgia. In all these cases, the pain is never so severe as in the true type. It may be described as a nagging pain.

The treatment of true trigeminal neuralgia may be either medical or surgical. The former is merely palliative, and must eventually give way to surgery. The blood should be examined as well as the urine and spinal fluid to discover a possible cause. X-ray pictures should be taken of the head, and all sinuses carefully examined. In controlling the neuralgic condition strychnine is used. It should be administered in doses beginning with 1/30th of a grain and increased to 1/5th grain. Castor oil may be given twice a week in ½-ounce doses.

Probably the most effective means of eliminating pain for a long period is the deep injection of alcohol. By means of novocain injections the various nerve trunks are blocked, and it is possible to thereby determine just which branch is affected. The anesthesia from alcohol will persist for a year during which period there will be entire freedom from pain. At the end of that time, another injection is necessary which, however, will not be effective for as long an interval. One-half to one cubic centimeter of 95 per cent alcohol is used. As has been stated, enucleation of the gasserian ganglion is the only definite and final means of eradicating trigeminal neuralgia.

For facial neuralgia, the obscure cause must be determined, and one will invariably be found. Radiographs of all the teeth must be made, and even edentulous mouths should not escape this procedure, as unerupted teeth might thereby be overlooked.

It is advisable in these cases that the patient remain in bed for a week or more and the entire nervous system given an opportunity to rest. A proper diet should be maintained which should include the vitamines.

The paper of the evening was discussed by several members of the section and it was generally agreed that we are as yet helpless in our desire to aid the victims of this pitiful malady, without an operation. Here of a certainty is a field rich in possibilities for those interested in the unfathomed afflictions of mankind, and he who gives to the world the cause and cure for trigeminal neuralgia will earn the everlasting gratitude of these pitiful sufferers and the perpetual esteem of his fellow practitioners.

Local Anesthesia*

By Dr. John Jacob Posner, New York City

(This account is neither official nor complete. It represents the impression made by the paper upon one in the audience.—Ed.)

In presenting his subject, the essayist spoke from a practical viewpoint. The subject of local anesthesia was taken up step by step and the technic of infiltration and conduction anesthesia clearly and simply explained. There is usually present among essayists a tendency to speak above the heads of their audience, forgetting that the men before them are engaged in active practice and are seeking information of value to them in their daily work. Dr. Posner's informal and convincing address, delivered without recourse to notes, received much favorable comment from the large and appreciative gathering.

Novocain suprarenin was employed for the entire technic, and the 2% solution in ampules was favored over the tablets. The ampule delivers an isotonic solution ready to use and displaces the novocain tablet, Ringer solution and dissolving cup.

The Fischer syringe was advocated as the best all-around syringe for dental purposes. It has one disadvantage in that it is necessary to fasten the needle by first passing it through a hub and then using a wrench on the hub. This process, besides consuming time, affords the possibility of needle contamination. The Record and Luer syringes were favorably mentioned as these possess cone-shaped nipples permitting instantaneous change of needle. For these syringes, the needles and hubs are in one piece.

For carrying out the injections but two needles are necessary. They are of the Schimmel type, and each is one and five-eighths inches long. One is 19-Brown and Sharp gauge, the other 23-gauge. These same thicknesses are 21 and 25 when measured according to the Stubbs English wire gauge. The thin needle in a long hub may be used for infiltration in any part of the mouth where infiltration is indicated. The heavy needle with short hub is suitable for any of the conduction anesthesias.

It was greatly emphasized that the thin needle as formerly employed by Dr. Fischer for the mandibular injection has been discarded by him as being too thin. He has adopted the 19-gauge needle for this injection, both for insurance against breakage and for the reason that a needle of this firmness will not tend to swerve from its path during the process of injection.

The nerve supply was reduced to a simplified outline showing the innervation of the teeth and the surrounding structures. The general

* Delivered before the Second District Dental Society, February 12, 1923.

rule to be remembered is that infiltration gives excellent results in the maxilla, but conduction anesthesia is the choice in the mandible. It must be kept in mind that the nerves emerging from the infraorbital as well as the mental foramina have nothing to do with the pulps of the teeth. In many cases besides the mandibular injection it is necessary to supplement it with one for the long buccal nerve. This branch supplies just the mucous membrane in the area of the molars, and it is frequently indispensable in order to complete an otherwise perfect anesthesia.

The structure of the maxilla is spongy, thereby favoring infiltration. The mandible is of an ivory-like nature, and infiltration is limited to the chin portion.

Conduction anesthesia, or nerve blocking at the mandibular foramen has earned a permanent place in the dentist's hands. Conduction anesthesia in the upper jaw at the tuberosity or at the infraorbital foramen may be replaced by infiltration with good results, but nerve blocking at the mandibular sulcus, with its deep anesthesia, is not so easily substituted.

A new infraorbital injection was described, which gives the point of insertion of the needle at a point just distal to the central in the muco-buccal fold. The needle is advanced upward and backward to the infraorbital foramen, over which a finger is on guard. The needle is made to enter the foramen where one c.c. of novocain is deposited. The advantage of this method of injection claimed by Dr. Sicher of Vienna rests upon anatomical grounds. The infraorbital foramen faces the median line, and is best entered when the injection is carried out as described.

For the mandibular anesthesia there are several points of technic which must be carefully followed in order to insure success. The patient must be seated with the head in an erect position. The syringe rests with the barrel over the canine of the opposite side of the site of injection. The index finger rests with its back against the buccal surfaces of the molars, the tip touching the external oblique line. The finger-nail is now directly over the internal oblique line. The needle point pierces the mucous membrane overlying the internal oblique line at the middle of the finger-nail. Immediately a few drops are released, and the needle comes to rest against the internal oblique line. The finding of this landmark constitutes the first stage of the mandibular injection. The barrel of the syringe is now swung towards the injected side until it is parallel with the index finger and directly above the occlusal surfaces of the molar teeth. After one or two attempts at moving the needle back and forth the internal oblique line will be passed. At the moment that this is accomplished, a few drops of the novocain solution are deposited, thereby anesthetizing the lingual nerve.

This completes the second phase of the injection. To complete the injection, the syringe is swung to the median line, and the needle advanced to the mandibular sulcus where the balance of the 2 c.c. of novocain is released. The needle at this time is buried to a depth of not more than three-quarters of an inch, and at a height of about three-eighths inch above the occlusal surfaces of the molars.

The paper was illustrated with blackboard drawings, and a number of splendid slides. In conclusion a motion picture film was shown in which Prof. Guido Fischer performs the various injections in the field of local anesthesia, and several extensive operations under local anesthesia are also depicted.

Preceding the lecture, Dr. Posner gave a two-hour table clinic at which he demonstrated upon the skull and wet specimen the technic of both infiltration and conduction anesthesia. A large number of original stereoscopic studies of local anesthesia were passed about for individual view, which have been the first of their kind exhibited.

Wax Elimination

By E. K. Peters, D.D.S., Fresno, California

So far as I know I am the first to advocate the following method of eliminating wax from investments. Try it out in the laboratory and see if it works for you as well as it has for me.

Take invested piece of work and place in a vulcanizer with about one-half inch of water in the vulcanizer and a false bottom in the vulcanizer which will hold the pieces, ore or more as the case may be, up above the water. Invert each piece and place absorbent cotton under it to catch the wax. Now close the vulcanizer and run it up to 280 or 300 degrees. Blow off the steam but not too fast. Remove from the vulcanizer and place over slow fire to dry.

The wax will be entirely removed and there is no boiling to disturb the smooth surface of the wax pattern. The wax will be deposited on the absorbent cotton. The whole investment is heated to 280 degrees and dries out readily and evenly. You only need to dry out thoroughly and cast as the wax is all gone. You will note that the investment does not crack away from the ring.

It is my opinion that steam pressure is to be the coming method of wax elimination.

Any vulcanizer will turn the trick, but it is well to have a large size one for this work as there can be more casting rings placed in it at one time.

410 Mason Building.

Where Your Tax Money Goes

By George Wood Clapp, D.D.S., New York, N. Y.

Those of us who have not yet gotten over the struggle necessary to pay either the Federal Income Tax, or the first installment of it, may be interested in the following information, which is condensed from data given in an article by William P. Helm, Jr., in "The Budget" under date of March 1st.

The cost of running the Federal Government from July 1, 1921 to June 30, 1922, is given as $3,795,302,499.84. Total collections were $4,109,104,150.94. The census gives the total number of workers in the United States, in 1920, as practically forty-one million. It follows that the Federal Government collected almost exactly $100.00 from each worker. Of course, the division of payment is not equal, since some paid less and many paid much more.

The income tax is the largest single source of income to the Government. It averages about $50.00 per worker. The tariff affords the next largest source of income and we fool ourselves into thinking the foreigners pay the customs duties, but we pay them ourselves, and last year they averaged $8.69 per worker. Last year the tobacco users paid in enough taxes to equal $6.60 per worker. The corporations paid in $90,000,000.00, and revenue taxes for use on certain legal documents brought in $14,000,000.00 more.

Our War Bill

It is sometimes stated that it takes 90% of our income to pay for wars, past, present and future. This is not quite the case, but it does take 73% of the Government's income. Out of each $100.00 which we pay in income tax, the Government is compelled to spend the following items:

To maintain the Veterans' Bureau	$ 9.95
For pensions	6.19
To maintain the War Department	11.08
To maintain the Navy Department	11.62
Interest on the Public Debt	24.18
Payments on the Principal of the Public Debt	10.31
Total	$73.33

In considering this 73%, it should be remembered that the army and navy have many very valuable peace-time functions, and that not all of this expenditure is properly chargeable to war purposes.

The Veterans' Bureau's total annual expenditure is $407,887,230.00. Salaries and expenses in this department consumed only 19

cents for each $100.00 of tax. Military and naval pensions to the disabled and their survivors took $3.08. Vocational rehabilitation took $4.36. Hospital and medical services took $1.72, and censorship $1.19.

Army, Navy and "Pork Barrel"

Each worker contributed last year $1.24 toward the pay of the army, and 50 cents toward the pay of the National Guard. The "rivers and harbors appropriations," commonly known as the "pork barrel," by means of which local congressmen sometimes receive a reputation for being enterprising by getting the Government to spend money upon improvements which do not improve, costs each of the 41,000,000 workers $1.06. This bill has been the subject of severe condemnation by certain members of Congress for many years, and is annually subjected to unsparing condemnation, but annually passed just the same.

The upkeep and maintenance of the Navy cost each worker in the country $11.62 last year. Five items in Mr. Helm's paper are worth noting:

For new warships	$3.49
For pay of the Navy	4.17
For the Navy's subsistence	.99
For fuel and transportation	1.98
For transporting and recruiting	.41

Tremendously Important Peace-Time Activities

In contrast with the large sums paid out for these war-time activities, it is interesting to note the small sums paid out for peace-time activities of the greatest importance. Each worker paid, last year, 4 cents to maintain the weather bureau, and $2.41 as the Federal contribution toward the good roads campaign. The Nation's greatest workshop and laboratory, famous the world over, the Bureau of Standards at Washington, D. C., which would be an interesting object of a trip by anybody who visits that city, cost each worker just 4 cents. The Department of Commerce cost each worker 52 cents and the Patent Office cost practically nothing. The Interior Department cost 43 cents, and the State Department cost 23 cents.

If you pay more than $100.00 total annual income tax, you have only to multiply any of these items by the number of hundreds you pay to find out what you paid for that item. Thus, if you paid $200.00 total income tax, you paid twice the amount of each item, and if you paid $500.00 total tax, you paid five times the amount of each item.

Any of you who are interested in this subject will find very much interesting information in the magazine from which this article is taken, "The Budget," published at 340 Madison Avenue, New York City. I am very glad to give them this publicity without their knowledge.

Nomenclature

By F. C. Moore, Tulsa, Okla.

Aye! Dentistry has made such strides,
All words seem insufficient
To tell the Public, and besides
Explain our skill proficient.
So limited with word and phrase,
Our primitive condition,
That we must institute new ways
To further erudition.

And thus we'll get our honest dues,
As well as proper credit;
Then, too, the Public reading news
Will know when they have read it.
We delegate those Dental Deans,
Who understand the nature
Of scientific ways and means
To fix our nomenclature.

These a la Burbank heads retire
And meet in close convention,
To carry out our heart's desire
In faultless word invention.
To Latin root Greek bud they bind—
Concomitant connection—
A perfect hybrid thus they find
Of true Burbank perfection!

Periclasia

Conduction and deciduous
Are in the list prodigious,
Along with other words just such as these—
Prosthesis and pathology
Both slips from Greek mythology
Are grafted into being as they please.

And so on through the pages
Of old and august ages,
They garner thus those words that will explain
New wrinkles and new crinkles,
Scientific hinky-dinkles,
And everything therewith that doth pertain.

So work your best philology
And learn this terminology,
You know that you must ever keep apace
With all that's periodontic,
Or else you'll be a pontic,
And listed as a dummy filling space!

DENTAL LAWS

Summary of Dental License Requirements Throughout the World

By Alphonso Irwin, D.D.S., Camden, N. J.

CELEBES ISLAND

An island of the East Indian Archipelago, of volcanic origin, partially explored. It is east of Borneo, about 70,000 square miles in area, and contains a Malay population estimated at about 400,000 people. It is rich in vegetable, animal, agricultural and mineral resources. Dutch colonial regulations prevail in the larger towns and more populous districts. The Dutch capital is Macasser. For further details address the Governor at the capital.

CEYLON

The dental laws are dated 1905 and 1915. English is the official language, Council of the Ceylon Medical College supervision. A new ordinance applying to the practise of dentistry went into effect Jan. 1st, 1916. In it no provision is made for recognizing a diploma from (foreign) American dental schools and no provision is made for examinations in Ceylon to determine applicant's competency to practise dentistry. Consequently any (foreign or) American dentist would first have to procure his certificate from the proper authorities in the United Kingdom of Great Britain, according to the requirements of the law there, before he can practise dentistry in Ceylon. Registration fee, five rupees, other fees fifteen rupees. For further details, address the Registrar of the General Medical Council, 44 Hallam St., Portland Place, London, England; also the Registrar, Ceylon Medical College, Colombo, Ceylon.

CHILE

Dentists desiring to practise in Chile must present their diplomas to the University of Chile, with application for examination, accompanied by a fee of $70, according to a recent law published in the "Diario Official." If the applicant presents a diploma from a university recognized by the Chilean University, he will be given a practical and theoretical examination, and issued a certificate if successful. If his diploma is from an unrecognized university, he must take a complete

third-year course in the Chilean School of Dentistry, and pay a fee of $140. Requirements:

1. All foreign-born applicants for a license to practise dentistry in Chile must undergo an examination.

2. All examinations and writing are conducted in the Spanish language.

3. The candidate must be twenty-one years of age or over and possess a good moral character.

4. He must possess a dental diploma from a reputable dental college (Department of a State University), which is registered by the University of Chile. This diploma must be properly signed by the Secretary, Registrar, Dean or Provost of the Institution and the members of the Faculty.

5. The diploma must be validated by a license granted after examination by the Board of Dental Examiners officiating in the State wherein the college is located, which issued the degree to the applicant.

6. The diploma and license must be vised by the Secretary of State at Washington, D. C., his signature and seal being affixed thereto. (As a matter of convenience, the official endorsement of the Governor of the State or the Secretary of State, of the State wherein the applicant originally resided, is sometimes accepted.)

7. The diploma and State license must be certified to by the Chilean Ambassador at Washington, D. C., or by the Chilean Consul-General located in New York City.

8. The diploma and license must be vised by the United States Consul resident in Santiago, Chile.

9. The signatures must be certified to and the genuineness of the documents established to the satisfaction of the Chilean Minister of Foreign Affairs or the Chilean Minister of Justice and Public Instruction.

10. Translations of these credentials must be made into the Spanish language, upon stamped paper, by an official translator, who shall sign the same, and appear with the applicant before the Secretary of the Faculty of Dentistry, in Santiago, Chile, at an appointed time.

11. If his credentials are accepted, the applicant must present himself upon the date appointed, at the office of the Secretary of the Faculty, with two witnesses, neither of whom shall be minors or relations, who shall declare in writing that the applicant is the lawful owner of the diploma and other credentials.

12. The candidate must present a "petition" written upon official (stamped) paper, and ask to be allowed to take the examinations necessary for the "revalidation" of his diploma.

13. The applicant usually must take the final course in dentistry at the college in Santiago. Some must take the full course and pass the examinations at the close of each collegiate year.

14. The examinations embrace the same group of subjects and are conducted in the same order as prescribed for the other dental students in the college. The subjects are stated in general terms, to include Anatomy, Physiology, Histology, Dental Prosthesis, Dental Clinics and Surgery. Provisions are made for re-examinations in case of failure in the first instance. The fees for the examinations are the same as those for the corresponding year in the course of the college. Fees fluctuate. They are said to amount to about $100 Chilean currency.

For further details, address Secretario de Universidad de Chile, Santiago, Chile.

CHINA

There are no Chinese ordinances bearing upon the subject of dental license.

There are, however, local regulations imposed by Foreign Protectorates, under English, French, or Japanese occupation. Application to the Chan Kwang She, or Yang ye Yung, Chinese Consuls at 18 Broadway, New York City, should elicit the latest reliable native information in regard to the present condition of the country or province concerned, and the possible prospects there for an alien or foreign-born dentist, especially for an American dentist, who is a graduate from a dental school in the United States of America.

In those parts of Shantung and Manchuria or elsewhere, under Japanese control, the Japanese colonial dental law has been introduced; but since the withdrawal of the Japanese occupation it is reasonable to conclude that no dental regulations will be enforced. Under other foreign Protectorates, which are limited in extent and will be mentioned later on, local restrictions exist; otherwise the Chinese Empire is open to any dentist.

The fees paid for dental services by the natives of China are so pitifully small that they would not compensate a foreign dentist for his time, materials and skill, while the Japanese and native dentists appear to render the most acceptable attention to the teeth of the Chinese. The wealthy and cultured classes of the Chinese, as well as the European, American and foreign colonies, constitute a very desirable clientele for the proficient alien dentist, but the number is small compared to the total population of China. The supply of dentists is increasing, and the opening up of Medico-dental departments in Chinese colleges must be taken into careful consideration before deciding to locate in that country.

CHEFOO, CHINA. There are absolutely no restrictions on the part

of the Chinese to the practice of dentistry. The resident American Consul states: "I know of no law governing dentists. Any one can practise. American dentists are the most popular, in fact for many years they were the only dentists in China. Of late, however, Japanese are competing. There is a good field here in Chefoo for a dentist who wants to build up a practice, as there are no dentists here now."

Hongkong. The conditions imposed on all practitioners render the admission of non-British graduates very difficult. It is evident that the general colonial dental license regulations prevail in this Province and city, that is to say, that the L. D. S. (Licentiate of Dental Surgery) is recognized and registered, provided it is possessed by a British subject. It may have been granted by an English colonial dental school, college, university, body or the General Council of Medical Education and Registration of the United Kingdom of Great Britain and Ireland, and should be accompanied by a suitable sworn statement of identity and authenticity. Such credentials would undoubtedly be a passport into the most desirable and lucrative clientele in Hongkong or vicinity. The Chinese population, as a rule, is attended to by native dentists, although in former times Japanese dentists shared in this kind of practice. The fees paid by this class of patients is absurdly small and would hold out no inducements to the American or European dentist to attend to such cases.

China: Indo or French. In the Colony here, the requirements for practising dentistry are the same as those which are recognized in France. In the regulations governing the practise of dentistry in France, it is necessary to pass an examination before an association in France and receive a diploma from the Faculty of Dentistry at Paris. It would probably be difficult for a dentist to install himself in Indo-China, as there are three French dentists in Saigon at present. For further details, address Mr. Remillard, Saigon, Indo-China.

Verified March 19, 1920.

Mukden, China. As far as Manchuria is concerned, no examination or license is required. Manchuria, however, at present does not offer any hopeful field for American dentists. The number of foreigners resident here is very small and the Chinese are comparatively free from the need of dental services. Whenever they do require them, they seem to obtain satisfaction from the Japanese dentists in practice here, whose fees are smaller than an American dentist could afford to charge.

Shanghai, China. There are no laws or regulations as yet governing the practice of this profession by an American or any other dentist in China. No especial value is attached to the diploma of any particu-

lar dental college. As long as a man is a qualified dentist, from a good school established according to the laws of his own country, and is a reputable dentist, his efficiency will be the standard by which people will gauge him. Shanghai is abundantly supplied with dentists at present, among whom are several Americans. So far as this office is aware, there are no specific regulations for licensing dentists in this port.

Verified by official advice from Shanghai, March 3rd, 1920.

TIENTSIN, CHINA. There are no laws governing the practice of dentistry in Tientsin, China. However, all dentists in this territory, most of whom have been in China many years, hold requisite certificates from their governments entitling them to practice dentistry either in their own countries or elsewhere.

Verified April 27th, 1920.

COLOMBIA

BOGOTA, COLOMBIA. Part of the decree No. 592 of the Colombian Dental Law, dated June 8, 1905, provides: That a person, desiring to practise dentistry in Colombia, must present a diploma, granted to him by the Bogota Dental College, or by some foreign college or faculty of known competence. It is permissible in villages where no dentist is resident, for an individual to practise dentistry who can prove that he has practised for at least two years in some dental office. Further, and in everything relating to this last profession, the provisions of the present decree shall apply.

In Colombia all graduates of foreign Medical (dental included) Schools must possess a diploma or diplomas, submit to a clinical examination, present a printed thesis on some national (dental) theme, and be governed by the same regulations generally that are prescribed for graduates of the schools of that country.

Furthermore, diplomas must have been granted to an alien dentist by a college well-known for the thoroughness of its course and the high standards of education maintained. All credentials must be accompanied by the Certificate of the Minister or of a Consul-General accredited by the Republic of Colombia. The Spanish language is used.

For further information, address Secretario de la Universidad de Bogota, Bogota, Republica de Colombia.

(All States, Nations, etc., to be printed alphabetically.)

PRACTICAL HINTS

This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions and Answers should be sent direct to him.

NOTE—Mention of proprietary articles by name in the text pages of the DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule. This Department is conducted for readers of the DENTAL DIGEST, and the Editor has no time to answer communications "not for publication." Please enclose stamp if you desire a reply by letter.

Editor Practical Hints:

I noticed in a recent issue the report of a case by R. E. H. about which he would like to have some information.

The symptoms, as reported, resemble those of an advanced case of Vincent's Angina, or Trench mouth, which was so prevalent amongst our men of the army and navy during and immediately following the war.

Why not try some of the well-known treatments for this disease.

WM. HOROWITZ.

Editor Practical Hints:

As I read the DIGEST regularly, I note that often you answer questions, or rather have a department that does so.

What I wish to know is the method of "Toothbrush Drills" for children in schools, that is, how should they be taught to brush their teeth.

Of course, I know the proper way to use a toothbrush, viz., from gums toward ends of crowns of teeth, but I understand that in these drills in schools, they advise them of some other method, and if so, I would like very much to have it for use here, if better.

A. J. D.

ANSWER.—The labial and buccal surfaces of the teeth and gums are to be brushed with a straight up and down motion of the brush, without special effort at rotation, or with a down stroke on the uppers and an up stroke on the lowers or with a circular stroke. The upper and lower jaws may be brushed separately, or the teeth may be placed edge to edge and both upper and lower gone over with each stroke of the brush. The occlusal surfaces are usually self-cleansing; they may,

however, be brushed with a mesio-distal motion of the brush. The lingual surfaces of the bicuspids and molars should be brushed with an up and down motion or with an upper-down and lower-up stroke or with a circular stroke. This is most readily accomplished with a brush whose bristle section is longer at its outer end. If this cannot be done efficiently, a mesio-distal, disto-mesial movement may be used. The lingual surfaces of the upper and lower incisors should be brushed with an up and down motion, holding the brush with its handle parallel to the long axes of the teeth. The buccal and distal surfaces of the third molars or of the last molars in the jaws, should be brushed by placing the brush so that as nearly as possible the middle of its bristle section will be on the distal surface; it is then brought towards the front of the mouth, brushing the buccal surface as it is carried around the tooth. Irregular placement of the teeth and other abnormalities may require special brushes and special methods of brushing.

The proximal surfaces of the teeth, where not properly covered by gum tissue, should be cleaned with flat silk floss waxed with beeswax. This is held between the thumb and forefinger of each hand, the silk passing over the end of the thumb or finger, according to convenience, allowing not more than an inch of free silk between the two hands. It is slipped gently between the teeth and after passing beyond the contact point the proximal surfaces of each tooth are cleansed with a bucco-lingual motion, using as much pressure against the tooth as can be maintained without permitting the silk to cause perceptible pressure against the gum tissue.—V. C. Smedley.

Editor Practical Hints:

I have a lady patient about 65 years old who has a partial upper plate that fits fine and is all O.K. It is made of gold and dist rubber. When she wears it her mouth seems to become perfectly dry and especially her tongue gets dry. Can you suggest anything that will help the condition? Do you think a gold plate would be any help? She has worn the plate about four months. B. C. B.

Answer.—I will publish your question and possibly some other reader may be able to give us more light on this subject. I had one such case a couple of years ago which I found very baffling for a time and I am not sure that we ever succeeded in eliminating the difficulty entirely. I would suggest that you relieve the foramena areas from any possible impingement from the plate and be sure that it does not extend too far back on to the soft palate. If this does not relieve the difficulty, should think it would be advisable to try a gold plate as the condition is no doubt due to a nervous reaction from some cause and gold, if equally well fitted and highly polished, is certainly more compatible with oral tissue than rubber and it also gives the patient a

sense of confidence and well-being which is of benefit in bringing the nervous reactions and functions to normal.—V. C. SMEDLEY.

Editor Practical Hints:

I have a case on which I would like a suggestion from you. I don't know what to do for it.

Patient is a man about 35 years old; he has worn down his posterior teeth, both above and below, until he cannot eat with any degree of comfort; they are very sensitive to both heat and cold, sweet, sour and salt; he cannot touch them with anything of a metal nature. His anterior teeth are but very little abraded and not at all sensitive. Have tried burnishing silver nitrate crystals on the abraded surface, but it does no good. It is impossible to work on the teeth on account of their sensitive condition; therefore cannot put in any gold inlays to stop the abrasion. What in time am I going to do with such a case? I am willing to try anything, and my patient is willing that I try anything to give him relief. Other than the abrasion his teeth are in excellent condition. R. B. M.

ANSWER.—X-ray straight through the crowns of these abraded teeth to ascertain how much recession of pulp has accompanied the abrasion. Usually there is enough abrasion so that inlay or onlay restorations can be made and the occlusion restored with an open bite relation. I have teeth of this type in my own mouth, but am not yet willing to have them cut into for the sake of building them up in this way. I have secured the most satisfactory relief by cutting strips of blotting paper the width of the molars, moistening same somewhat (not to saturation) with concentrated solution of silver nitrate. The tongue and cheeks are packed away with cotton rolls and the moistened blotting paper strips placed on the occlusal surfaces of the lower abraded teeth. The jaws are closed and held under heavy pressure for ten or fifteen minutes. Remove the strips and wash the mouth with salt water and sensitiveness will be greatly relieved for some time at least.—V. C. SMEDLEY.

Editor Practical Hints:

I would appreciate it very much if you would suggest what should be done to a tooth which has been bumped hard enough to block the nerve passage, which resulted in a blackish colored tooth.

W. R. F.

ANSWER.—Take an X-ray picture to see if the devitalization of pulp from blow has resulted in apical destruction. If not, drill in and remove strangled pulp. Carefully fill the apical third of the canal, being sure that it is thoroughly sealed. Remove all the devitalized pulp

and part of the discolored dentine. Fill the enlarged pulp cavity with loose, dry cotton; seal orifice to cavity with soft, sticky temporary stopping. Make a small hole in the center of the stopping and carry 25 per cent pyrozone between long beaked cotton pliers through the guttapercha to the dry cotton within until the cotton is partially saturated with pyrozone. Then seal hole in the center of the guttapercha filling with a hot instrument. Teeth will usually be sufficiently bleached of discoloration in one, two or three of such applications of pyrozone. If your dental depot does not have pyrozone, get it from the drug store. Follow directions carefully in opening and using same, as it must be handled with care.—V. C. SMEDLEY.

Editor Practical Hints:

As the Editor of Practical Hints in the DENTAL DIGEST, and of which I am an anxious reader, I write to you for information on the following subject: The Extraction of Abscessed Teeth in women during pregnancy.

Should such teeth be extracted during this period or not? If so, why? If not, why not?

I will appreciate any and all information on the subject, as I believe it to be the proper thing to do, especially to further a more healthy mother, consequently a more healthy infant. But the physician in charge of one such patient prohibited the patient from having such relief.

I would desire to have this appear in your department of the DIGEST, as I am extremely interested.

C. L. L.

ANSWER.—It is my opinion that badly infected teeth or teeth with acute alveolar abscesses should be extracted during pregnancy; that leaving them in does the mother and the foetus more harm than their removal. I also believe that filling, to prevent extensive caries, should be made at this time, and moreover that regular and frequent prophylaxis treatments should be given. If a case has a bad history of abortions it would be wise to avoid doing work at the more susceptible periods, namely, the third and seventh months. With Novocain and the nerve blocking science of the present day there should be very little shock in removing teeth, and consequently slight danger from the operation.—V. C. SMEDLEY.

Editor Practical Hints:

Am writing for a little advice or suggestion on receding gums.

Patient, female, age 25. Has recession on laterals and cuspids both above and below. First consulted dentist some three or four years ago,

who suggested brushing teeth in up and down stroke manner, which she says she has faithfully done. But the gums continue to recede. Have tried most mouth washes and various pastes on market, but seemingly without result.

The gums appear healthy enough and I see no traces of pyorrhea present. Have examined for tartar deposits but found none. The saliva appears alkaline in reaction, turning red litmus paper blue. I am at loss to know what to suggest for this case, and will appreciate any suggestions you may be able to make, or that any other members of the profession may have. There seems to be no sponginess of gum either. H. A. McW.

ANSWER.—The case which you describe is one which used to be known as "dry pyorrhea," and for which there did not seem to be an adequate diagnosis, but since Dr. Paul Stillman has called our attention forcibly to the effects of traumatic occlusion we have a plausible and logical explanation for these cases, and I believe you will find that the case of which you speak is one in which traumatic occlusion plays the leading role.

In diagnosing this condition you may test by placing the fingers upon the teeth affected and have the patient rotate the mandible in the various excursions of centric and excentric occlusion. I think you will note that when this is done that the teeth will move under your fingers, and that when the jaw is opened and closed forcibly that the fingers will receive a shock as from a blow. The remedy is to relieve this condition by grinding the base angle of any facets which may be worn, or shortening long cusps. I would refer you to "Stillman & McCall's Clinical Periodontia," for a further explanation of this condition and treatment of the same.—V. C. SMEDLEY.

If there is anything more interesting or memorable than a pleasant vacation we don't know what it is. Write it out and forward to the Dental Digest, 220 West 42d Street, New York. Send the photos you like best.

CORRESPONDENCE

Dogma and Science—Pro and Con

EDITOR'S NOTE.—The publication of an address by Dr. J. Leon Williams on the subject, "The Religious Beliefs of a Scientific Man," in the April issue of The Dental Digest, has aroused a great deal of interest and, as is natural, it has brought forth expressions of condemnation as well as praise. Telephone requests for as many as fifty reprints have come in, and we are printing a few letters setting forth opposing views.

A point which seems to have been lost sight of by many is that the article in question was published as an example of one man's efforts to do something non-dental for a community, as suggested in the April editorial, "Constructive Service," and not as an interpretation of religion necessarily to be embraced.

"A fire-mist and a planet,
  A crystal and a cell,
A jellyfish and a saurian,
  And caves where the cavemen dwell;
Then a sense of law and beauty,
  And a face turned from the clod—
Some call it evolution,
  And others call it God."

BUFFALO, N. Y.,
April 9, 1923.

Editor DENTAL DIGEST:

I have read your note in the April DENTAL DIGEST concerning the address of Dr. J. Leon Williams, entitled "The Religious Beliefs of a Scientific man." Have also read the address and enjoyed it very much. Would like to know whether it will be possible to secure two or three copies of this address?

Yours truly,

E. S. S.

NEW YORK, April 9, 1923.

Editor DENTAL DIGEST:

May I have a reprint of Dr. Williams essay—"The Religious Views of a Scientific Man," or another copy of the DENTAL DIGEST in which it is printed?

Very truly,

C. W.

LOGANSPORT, INDIANA,
April 11, 1923.

Editor DENTAL DIGEST:

"The Religious Beliefs of a Scientific Man," by J. Leon Williams, Fellow of the New York Academy of Science, as printed in the April DENTAL DIGEST I have just read and would like to have several copies of this address. Can I get them?

Respectfully yours,

E. E. W.

Canton, Ohio, April 12, 1923.

Editor of DENTAL DIGEST:

Dear Sir:—The April number of "The Dental Digest" has aroused a mild storm of disapproval in several quarters, and I am going to take the liberty of voicing my disapproval.

"Beliefs of a Scientific Man" is a laughable article if all of us were able to laugh at everything. The Immaculate Conception is one of my beliefs, but for the sake of argument we will grant that it is merely a theory. Does that grant the right to any one to scoff and deride this belief, with nothing but theories to back up his statements? His arguments are nothing new or original. In fact some of his statements seem to have been copied directly from discussions of several really learned men who lived hundreds of years before our time. I guess that is well off my mind, but please, in the future, my religion will be in better hands if left with myself and some theologians whom I consider really great, and really learned.

If, however, you have decided upon a proselytizing religious campaign for your magazine kindly remove my name from your mailing list. This I would consider a real loss, for when the Digest attends to discussion of Dentistry and allied subjects, it is truly helpful and enlightening.

Sincerely,

D. H. V.

April 18, 1923.

Dear Doctor:

I am sure that you entirely misunderstood the purpose in writing and publishing the article by Dr. Williams entitled "The Religious Beliefs of a Scientific Man." Nothing was further from his thought than to scoff or deride any religious belief; and, in carefully rereading that portion of his article dealing with the Immaculate Conception, I

am unable to see that he has done so. In fact, he has said less than is being said by leading preachers in this city to-day.

The Digest published the address because Dr. Williams has been repeatedly asked to make such addresses before groups of dentists. And on the rare occasions when his health has permitted, he has been accorded the closest attention by audiences as distinguished as our profession can produce. One such address was published in booklet form and has been highly praised.

As editor of The Digest and the one responsible for its policy, I have no intention of proselyting anybody to any particular form of religious belief, mine or another's. All men look alike to me, Jew or Gentile, Protestant or Catholic, Baptist or Buddhist, on condition that they have some form of vital faith that serves as a restraint from wrong-doing, a guide to right-doing and an inspiration to live constructively.

My sister thinks that if I doubt the literal accuracy of the story of Jonah and the whale, I doubt Jesus Christ and the imminence of God in the world. By all means let her have her faith undisturbed. My boy and his college friends are unable to see any connection between Jonah and the plan of salvation. So there you have the widest difference of thought in a single family. Yet we live happily and I have no desire to "convert" any of them to my own notions.

I, however, firmly believe that "the life is more than meat and the body than raiment," and that many men in our own profession will be glad to read what such men as Williams, Gysi, Bates, King, Thornton and others have to say on such subjects, and The Digest will be glad to publish their articles, not with the thought of proselyting but to show what conclusions appeal to some of the best and maturest minds in the dental profession.

I listened last evening to one of the brightest men in our profession describe a highly technical method of determining which patients were good risks for peri-apical treatment and which were hopeless. An old and prominent practitioner leaned over to me and said,"My God, if I had to do all that, I'd quit." So you see nothing appeals to all of us favorably.

Have no fear, Doctor, that any effort will be made to change your faith or that any article of faith which you hold constructively will be ridiculed. But let The Digest offer, when it can, material which may help others who have no constructive faith or who are groping in the chasm so falsely opened between science and faith. You will find that we are all trying to do the same thing only in different ways, as you might make inlays by the direct method and I by the indirect.

The usefulness of the effort is shown by letters of commendation

from men who needed that help and by more requests for reprints than for any other article we have printed for years.

GEORGE WOOD CLAPP.

April 16, 1923.

Editor DENTAL DIGEST:

It would be hard for me quite to express my astonishment upon seeing in the last number of the Digest such a production as the one from Dr. Williams—"The Religious Beliefs of a Scientific Man," and I desire to state as my very positive opinion that of those who read that address with any considerable degree of interest a large proportion will find in it much that is most painful and offensive.

I presume you must be acquainted with the evidence that there is in rapid progress in the Protestantism of to-day, a separation into two rather hostile camps—the Modernists and the Fundamentalists, each with the intensity of feeling that inevitably accompanies religious controversy. My own first impulse upon reading this brochure was to write and tell you that since you had seen fit in such a decided way to enter upon this controversy, on the side of the Modernist, with such a clear-cut message, I could not and would not any longer be connected with your magazine as a subscriber, and to request its prompt discontinuance. Upon reflection, however, I have seen fit to do somewhat differently.

In this letter I do not propose to enter at all upon any discussion of the questions at issue, but wish to ask you several questions, namely:

Have you anything like a clear conception and are you quite sure of the comparative strength on each side of this controversy, whether in regard to moral force, force of intelligence and reason, or even in regard to mere numbers of adherents, respectively; and does your answer to this question justify you in presenting the one side only of the controversy, thus leaving the Digest to be considered as being distinctly partisan in this matter?

Are you willing to present in the Digest, with corresponding prominence, space and fairness, the Fundamentalist side of the controversy?

Are you unable to find some man of prominence corresponding with that of Dr. Williams who will ably, fairly and decidedly, as Dr. Williams has done, present this side of the matter? If so, would you be willing to publish a production of this kind from one (myself, for instance) who is professionally obscure, though a member of good standing with his dental society, and who is distinctly and emphatically a dentist and a layman, without any taint, occupationally, of clericalism: provided such production shall approve itself to an unprejudiced and

enlightened judgment as a virile, capable and fair presentation of the subject, showing a spirit of constructiveness and not merely controversial, and not dependent upon "theological 'pap'?" With regard to this last question, I simply wish to know whether you are really willing to be open-minded and would promise not to turn me down just because of disagreement with your personal inclination?

If you want me to furnish the article above proposed I should like to have a month or two in which to do it.

Awaiting your reply with much interest, I am

Very respectfully,

N. C. S.

April 18, 1923.

Dear Doctor:

In reply to your favor of April 16th, disagreeing with the views expressed in Dr. Williams's article in the April issue of The Dental Digest, let me say that I am glad that you did not yield to your first impulse to cancel your subscription and be done with the matter, but that you took a more conservative course, because I firmly believe that friendly difference of opinion is one of the stepping stones toward progress.

I expected there would be some such reaction as yours to this article, though I must say that the messages of commendation and requests for reprints have greatly outnumbered the messages of condemnation. In order to set your mind at ease as soon as possible, I will say to you that I am perfectly willing to present to the profession in precisely the same manner an article by yourself, for instance, and I think you and I can pass upon the suitability of the article without submitting it to anybody else for judgment, because it is not in the least essential that the article agree with my personal views. It is only important that it be just what you have described, a virile, capable, constructive and not controversial presentation of the subject. I have no personal views in this matter to carry across nor do I care particularly to persuade anybody to my own way of thinking. What I do want men to do is to thing in the ways which you have described, fairly and constructively and not controversially.

The older I grow and the harder I try to help men the more I realize the futility of expecting all men to think alike or to be influenced in the same way by any given presentation. How dull the world would be if we all responded in the same way to a given stimulus!

I published that article because Dr. Williams is one of the leading contributors to our own professional thought and because he has been asked on different occasions to present addresses of this sort before

large gatherings of dentists, and not long ago, a distinguished group of members of our profession met in Ohio for the purpose of hearing him speak. The article to which you object was published elsewhere, but it did not come to the attention of many of the members of our profession, and I wanted those who cared to do so to have a chance to read it.

And now I want to tell you a story. About four years ago, my boy, then fifteen years of age, and in High School, was attending Sunday School where he was taught by a man of most excellent standing in the community, who firmly believed in a literal interpretation of the Bible. The teaching left the boy and his friends mentally unsatisfied, and because we are very close together, we spent a good deal of time going over subjects such as he had in the Sunday School class. I was fortunate in being able to afford him evidence as a ground of belief and this foundation proved to be very valuable when he went away to college. His associates then were all boys taking science, because he was taking one form of science. There were some law students mixed in with them. These boys could not be persuaded to disbelieve what they saw in their test tubes and under their microscopes, and their reactions to the belief of literal interpretation of the Bible were so violent that some of them were torn entirely away from their childhood faith.

If my boy's faith depended upon assertion or authority, the result would probably have been the same in his case, but fortunately his belief in religious things rested upon evidence and was entirely consonant with his scientific work. I know that upon some occasions when I have sent him the lessons from The Query Club, they have spent a week discussing them. The boy found a complete harmony between his religious faith and his biology and chemistry and weathered the tests successfully.

Will you please have your article reach me by the 20th of June, if possible, because I should like to look it over in time to get it into the August issue?

With best regards and the assurance that I have no desire to convert anybody to my way of thinking, but only to stir them up to think and act helpfully, I remain

Yours very truly,

GEORGE WOOD CLAPP.

Editor DENTAL DIGEST:

I read with a great deal of interest the article, "The Religious Beliefs of a Scientific Man." It was very refreshing; give us some more.

Very truly yours,

F. E. W.

Editor DENTAL DIGEST:

I have just read your message, "Constructive Service," and before I go home I want to congratulate you for it. You are on the right track and I hope to read more like it in the future.

We, as a profession, do not pay enough attention to religious thought. More power to you.

Yours fraternally,

HORACE W. KING.

LITTLEHAMPTON, ENGLAND,
April 2, 1923.

Editor DENTAL DIGEST:

I notice in the March DIGEST your editorial headed "Editor's Corner." This discusses the old difficulty in connection with the needs of the masses in the matter of dental service. In Britain the Ministry of Health has tackled this problem with considerable success. In this country nearly every wage-earner must be compulsorily insured in a Company or Society approved by the Ministry. In return, he receives free medical attendance, together with a regular weekly sum during his illness. Most of these Approved Societies at present give what is known as the Dental Benefit, possibly all will do so in the near future. In all towns there are certain dentists who are willing to work for the insured patients at a scale of fees agreed upon after conference with the Approved Societies. The work consists of simple fillings, extractions, and replacement by means of vulcanite plates. The fees are moderate, but satisfy the junior practitioner; payments are on a cash basis, so there are no bad debts.

The Dental Law here is now very stringent. Flaring signs outside a dentist's premises, newspaper advertising, in fact, advertising in any form is forbidden under pain of removal of one's name from the Dentists' Register and loss of livelihood. A dentist's name may also be removed for certain offences against morals, so you will see we are well looked after. I remain,

Yours truly,

L. TAYLOR.

Editor DENTAL DIGEST:

Upon receipt of the April number of the DENTAL DIGEST, I was surprised at the wording of your editorial note at the beginning of my article.

It is true that Orthodontic Engineering had its inception at Doctor Stanton's office; nobody to the best of my knowledge will deny that.

The material for my series of articles has been written up since August, 1920, was presented in the form of a lecture with illustrations at Waterbury, Connecticut, October, 1920, and again at Hartford in November or December, 1920. These Societies do not publish their proceedings in any Dental Journal.

I gave complete clinics at the cenvention of the Chicago Dental Society, January, 1921, at the Connecticut State Dental Society at Waterbury in April, 1921, and again at New Haven in April, 1922. At Atlantic City in April, 1921, at the convention of the Society of American Orthodontists, I also gave the same clinic, and a report of same was published (without illustrations) in the May, 1922, number of the International Journal of Orthodontists, a reprint of which I am hereby enclosing.

At *all* the above clinics and lectures the apparatus, models and all the *original* drawings used in illustrating my series in the DIGEST were shown.

I have sent to Washington for a copy of the patent to which you refer and have just received same. After a careful perusal of same, I fail to find that the apparatus illustrated in my article, in any way infringes on said patent of Mr. Fish, assigned to Doctor Stanton.

His apparatus is a calibrated *attachment* to be *affixed* to a pantograph. Whereas mine is simply a *pantograph* (and not patentable) set to one enlargement and not adjustable or calibrated. His levelling table and the one I use resemble each other as much as a row boat resembles an ocean steamer—"they both float."

As regards the hole in the table in my apparatus, it is not essential but was simply made for convenience and could be eliminated without inconvenience or detriment. And after all, I suppose the inventor of the Pool Table has a priority right to holes in a table.

I do not look for any credit where it is not due, and for some time I have had in preparation a complete bibliography on Orthodontic Engineering, to be published at the end of my series.

I should like you to publish this letter over my signature, so as to remove all misconception from the minds of your readers. The only thing I claim for my series of articles on Orthodontic Engineering is that it is the first *complete* presentation in an understandable form, free from befogging, either intentional or otherwise.

LIONEL HARTLEY.

Editor of Dental Digest:

In reading your very interesting current issue of the DENTAL DIGEST, I became particularly interested in an article under head of "Practical Hints," and signed R. H. C.

This writer asks if one hundred and fifty dollars would be considered an exorbitant sum for an upper and lower set of aluminum plates with Trubyte teeth, etc.

I trust it will not seem boastful to say that during forty years of dental practice, a large number of cases of both swaged and cast aluminum plates have come to my attention, and it is my present opinion that the successful adjustment of aluminum plates is a piece of dental prosthetic work requiring a considerable amount of skill—the finest application of technical art—an instant and unmistakable grasp of conditions presented—a manifest confidence on the part of the operator in his ability—and last but not always least—an ability worthy of confidence.

Your correspondent R. H. C., we assume, was proficient in all these requirements, undertook the case at the very modest price of $150, guaranteed satisfaction or no pay; refused full payment when it was offered him and now finds that all the patient had to do was to discover that a small payment established her claim to the work and a persistent bluff of dissatisfaction did the rest.

Now my query is this: How long will dentists continue this most foolish and unprofessional kind of practice? Leading the patient at once into the belief that they are experimenting on the case, and since they are willing to undertake it at their own expense it necessarily must be a "Hit or Miss" chance game with only a guess as to one's winning out, and with the further unfortunate impression that any regard or respect for the skill, experience and conscientious effort applied to the case, or obligation on the part of the patient, is a matter of negligible concern. This kind of practice is a serious handicap to the elevation of our profession and should be avoided.

Who can justly and honorably to himself guarantee to his patient anything further than his very best effort in the service rendered in any department of dentistry?

Further, who can guess in such a case as the above, how or when or to what extent satisfaction may be obtained, if at all, with a large number of dental patients?

An instance: A lady slightly past middle age, applied to a dentist for upper and lower teeth; had them adjusted; paid and retired; later, came back dissatisfied; could not wear them and wanted her money back. The dentist graciously declined to refund and urged a further trial. A vacation visit to a sister soon followed and the teeth were taken along to doll up with when necessary. The sister was informed of the

utter worthlessness of the teeth and the unfairness of the dentist. The sister wisely supported the policy of continued use with occasional visits to the dental office. Some months later the dentist received a visit from the patient, the mouth having become uncomfortable from irregular pressure, and with profuse apologies stood by while he trimmed the required part fearful lest he might spoil those teeth which had become so good she would not give them up for a farm.

What if the dentist had not collected his pay? Both he and his patient would have then suffered.

J. H. C.

Editor Dental Digest:

Would be interested to ascertain from any of your readers just what physiologic or psychic condition was present in the following occurrence:

I was thoroughly convinced last week that the age of miracles had not as yet passed. A woman about thirty-two years of age came into my office and requested that I examine a lower right second molar which was causing excruciating pain. After a survey of subjective and objective symptoms, I advised that the offending tooth be extracted. I started to prepare my Novocaine Solution when I was interrupted by her saying that she did not want any anesthetic. Once more I palpated the area and tried to determine the amount of motion the tooth possessed, but found it to be as firm as the Rock of Gibraltar.

I informed her that the pain attending such an extraction (without anesthetic) would be beyond her ability to withstand, but she was determined; and, thought I, "Here is where I teach Mrs. Know-all a lesson." I condescended to extract as per her request.

After usual preliminaries, I placed the beaks of my forceps well up around the tooth. She grasped both arms of the chair and held tightly.

"Now," soliloquized I, "is where friend patient will start to beg for an obtunder." I quickly extracted the molar and she looked up at me and said, "Is it out?"

I asked if she felt any pain and she replied, "Not a bit!" Perhaps Coue's "ce passe" was manifesting its influence in this case.

Dr. S. Joseph Bregstein.

DENTAL ECONOMICS

Business and Public Service

Charles F. Thurston, White Plains, N. Y.

Two graduates from a dental school settled in a town that already had twelve dentists. The first named Smith, immediately inaugurated a campaign of commonplace advertising. He sent out cards to every person who had a telephone number, placed a two-inch insert in the local newspaper, and joined a couple of lodges and clubs where he expected to show himself a good fellow. Competition was great, however, and his strenuous activities were rewarded by a meager response. Before long he concluded that he had located in a place that offered him no future whatever.

The other young man, a bright young chap named Levey, started on a different tack. He got in communication with the principal of the high school, and expressed the opinion that children were growing into manhood and womanhood oblivious of a form of neglect that would undermine their health, bring on countless miseries, and eventually destroy their public usefulness. He dilated on local infection, and cited numerous illnesses that owed their existence to diseased teeth.

The principal was deeply impressed. When the day declared by the Board of Education as Health Day came around, he asked the young dentist to address the children. At first he declined, giving as a reason that he was too busy to do so. The principal very fortunately did not know that he was busy, not in treating teeth, but in reading detective and love stories. After a little teasing, he acquiesced.

As he did not pride himself on being an orator, he was a bit shy about how he would acquit himself. It gave him quite a little concern until he recalled what interest he had always shown as a boy, in stereopticon views. Of course he could easily get a lantern, but where would he get the slides? The slides that they used in college were of little use. They served their purpose excellently for students, but they would never do for pupils in a public school. He therefore decided to make some of his own.

He went to a stationery store, bought a bottle of India ink and some tracing cloth such as architects use. Without much difficulty he pro-

cured from the local newspaper a large number of blank slides that they used around election time to show the returns.

Being a poor artist he suddenly felt that he was facing a big problem. He was not to be daunted, however. He decided to make his drawings very simple. He took his anatomy book and copied about twenty-five diagrams. With the use of tracing cloth this is not difficult to do. Indeed, when he got through drawing a manikin, showing the circulation of the blood, he was so elated over his success that he leaped from his desk and danced around the floor. With the use of red and blue ink, he made it a veritable work of art.

With this encouragement his work became quite easy. He made a diagram of the jaws showing how the teeth articulated. While glancing about the room he saw an advertisement of a hardware company. It showed a little gnome with a raised sledge hammer. He copied it with his tracing paper, and beneath the figure wrote the words "Mr. Toothache!" This did not satisfy him, so he drew in a tooth with a large decayed part beneath the hammer. This struck him as being so funny —the crudeness of the drawing helped to make it so—that he burst out laughing. He felt as though he was on the right tack, and he made several other drawings similar to this. He made a picture of a toothbrush with legs, arms and a face. He drew a circle of teeth around it—the teeth were likewise endowed with arms, legs and face. Underneath the drawing he printed, "Listening to their best friend."

Before long he found the making of the slides the greatest fun that he had enjoyed for a long while. With his tracing cloth he could draw almost anything. The reproductions were rarely like the originals, but in most cases they suited his purpose better because of the laughter they would invariably give rise to.

But it must not be thought that he merely tried to be funny. He knew he had to make the slides instructive, so he did not fail to do so. He took pains to make his diagrams scientifically correct. One drawing showing a premolar tooth with alveolus, was exactly as he found it in the book. He made three attempts, and threw away three squares of tracing cloth before he was satisfied. He spent over an hour in representing the little lines showing the enamel prisms, the black dots that marked the cement spaces, and the numerous other little details that were necessary to make his little work of art identical with the original.

He delivered his little talk in a large auditorium of the High School. His audience consisted of children whose ages ranged from thirteen to eighteen. As soon as he told them he was going to speak about a great fight between two arch enemies, they did not, like Romans, lend their ears but gave them up entirely. A deathly stillness spread over the hall. Every trace of giggling, whispering, shuffling of feet,

and other noises ceased with the abruptness of an interrupted phonograph. All eyes and mouths were wide open.

He showed a slide showing a bottle marked "Acid." The cork had eyes and a nose, while the bottle had legs and arms. On the hands were boxing gloves. The slide was labeled "Kid Acid." A burst of laughter broke loose from the audience that threatened to take off the roof. Before they could lapse into silence he showed another slide showing "Kid Tooth." This was greeted with another roar of merriment. Immediately afterwards he showed the two sparring together.

With this as an introduction he had clear sailing. So strongly clinched was the attention of the audience that he could give out to them the coldest of scientific facts without damaging their interest.

We will not go into details; suffice it to say that he merely emphasized the need of taking care of the teeth, the danger of neglect, and the severe penalties enacted by Nature from those who do not comply with her laws.

When the lights were flashed up, the audience gave him three rousing cheers. The principal made an address of thanks, declaring that he had never seen a movie that gave him more pleasure than did the little lecture. The local newspaper had sent around a representative, and the following day there appeared in the sheet a three column account.

What was the motive behind the address. The principal in his address called it "Loyalty to the community." The editor, himself a clever advertiser, closed his eyes to ulterior motives and in an editorial gave the young dentist a splurge of praise that vied with his Fourth of July copy. He designated the motive as "Public Spirit."

Did the address bring business? You may rest assured it did. A month afterward he was obliged to take an assistant. At the end of the year he was regarded as the most prosperous dentist in town. When asked if he thought it unprofessional for a dentist to advertise, he smiled knowingly and said: "Yes, if you try to advertise your practice as a grocer advertises his cheese!"

Suggestion for a Beginner

By E. Otis Sarber, Oshkosh, Wisconsin

A dentist wishing to locate in a small town of from 300 to 800 might find helpful hints in the following plan:

First make a visit to the town to note the character of the people, buildings and general progressiveness; character of the farms surrounding; class of stock, machinery and improvements. Do the farmers and their wives speak well of the town and trade there? Proving satisfactory, seek the one big man in the community (the boss); lay

your plan before him, cards up. Sell him an idea. Prove to him the cash value of your proposition to his financial holdings. That done, meet the School Board. Get permission to make a survey of the mouths of all school children in order to have facts to place before them that will prove lowered costs per pupil with more rapid turn-out, meaning longer use of present equipment. They will gladly call a public meeting to which Mr. Farmer and his wife are invited, and where you will make your first public announcement, as follows:

"I have a $5,000 equipment of modern dental office needs, also a $5,000 education for the betterment and preservation of health.

"Health is today known to be most largely influenced by conditions of early life; unclean mouths and decayed teeth are the worst conditions against child health. Your children of 4 to 12 years need on an average $12.50 per year of dental service; cleaning four times a year, filling the temporary teeth, and extraction as the second ones follow.

"My proposition is to offer you full service for all the children of the community, as outlined above, for just one-half the price mentioned. I can make that offer for a large amount of work over a long period of time, not to a few a week, and have no control as to when they will come again. Should I locate here in the usual way, I will be sure of many idle hours, while by this plan I hope to keep busy all the time that a man should spend each day at this kind of work, and it will be to my own advantage to keep these mouths in good order, as by that means I lower the actual work I will in the end have to do. Say you have about 100 pupils, on the average, at $6.25; this will equal $625 a year for assurance of good dental health in your school. For that I ask you to build me a good warm and modern dental office, to cost say $2,000 to $3,000, to be paid for as above. This will cement our interests in a bond of good will and united effort. I can't run away with the building, and to ever own it I must strive to please for a number of years in the interest of your children. You will support the local dentist, for of course he must make a living, and you will be assured of good service for the adults, for otherwise I lose at both ends.

"Building to be erected by subscription or taxation. Good sized lot for volley-ball or tennis. Property deeded to me, with mortgage; monthly reports to Board; annual credits; disputes settled by competent physicians and dentists, loser to pay. Most towns now or soon will have electric current. Tank under roof, supplied by pump, settles the running water question. My contract to forfeit on 8% failure in any month or year. Children failing to keep appointments and get the benefit does not forfeit my agreement."

Any honest man willing to work, after a start of this kind, should be able to hold his trade against any competition.

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All Questions to be addressed to Miss Elsie Pierce, care of DENTAL DIGEST, 220 West 42d Street, New York City

How should I advise patients to remove guttapercha or temporary cement fillings should it be necessary?

Gutta percha can be removed very easily by simply picking it out of the tooth, but cement would have to be taken out in the dental office.

What lozenge would you advise for a cough or throat condition which is annoying?

Campho-Menthol lozenges are often successfully used for this troublesome condition.

Is there a dental office coat on the market which need not be starched?

A number of dentists wear coats in colors and of materials from heavy silk, poplin, linen, etc. There is a new material manufactured call Du-Ply, which is soft and durable, and does not require starching.

How can I clean typewriter keys?

Pick each key free from dirt with a pin. Then scrub with a brush dipped in alcohol and dry with a piece of cheese cloth.

How should spirits of ammonia be administered?

One-half teaspoonful of Aromatic Spirits of Ammonia diluted in a half glass of water. It is often used by inhalation in cases of fainting.

What can I do for a patient who faints?

The cause of fainting is lack of blood to the brain. When patient feels dizzy have him lower head lower than his knees; this may often avert attack.

Open windows, apply cold water over face and neck, smelling salts or ammonia by inhalation, care being taken not to let same drop in eyes. After patient has recovered, keep quiet for ten or fifteen minutes.

Should a dental assistant rise when her employer enters the room?

It gives dignity to her profession if she does so. Circumstances and the occasion should govern her judgment.

What books are published that would be of special interest to hygienists and nurses?

Standard works on Mouth Hygiene and the Principles of Nursing are important to hygienists. Also Materia Medica and a good work on Therapeutics for Nurses would be of great assistance.

Why is black copper cement used so generally in children's teeth?

Because of its high germicidal efficiency.

Why can't Stellite spatulas be made thin instead of so heavy?

Stellite instruments are not made by the ordinary process, but are cast in a mold and then ground. The number 2 Stellite Spatula is popular for mixing Synthetic and is not any thicker or more clumsy to use than an agate spatula, which of course must be rather thick.

Is it unlawful to give a physician's prescription to a patient, signing physician's name?

It is unwise to do so, but with a physician's permission and marking the prescription *"copy"* is often done.

A Word of Encouragement*

By Mabel D. Griebel, New York

My main object in addressing you this evening, is to give a word of encouragement not to those of you who have been employed for years in the capacity of office assistant and secretary, but to those of you who are just launching out into this wonderful profession.

From my own experience I know how I would have welcomed just one little bit of encouragement from someone who had had experience in this work.

My first position was a very simple one; one where not much experience was necessary, which gave me quite the wrong impression. As I now reflect on this position I look upon it as a sort of pre-kindergarten training from which I was graduated into my second position, which seemed to me my senior year of high school, so different are they from each other.

In my present and second position my work begins where the cleaning woman leaves off, and also ends where the cleaning woman begins. Chair assistant, office manager, private secretary, and laboratory assistant, or in words of the baseball world, I would be termed a pinch

* Read before the Educational and Efficiency Society of Dental Assistants, New York.

hitter in the cleanup position. Fellow members, let me tell you I have my second position to thank for the experience which I have today. When I think of the articles which I broke, the mistakes I made, and the supplies that I wasted, I hate to recall these, for they remind me too much of a picture of the family group. The proverb, "patience is a virtue," applies to the man by whom I am at present employed, for if any man might be elected dean of office assistants he could. Through his thorough and patient training I learned the difference between a scaler and curette, cement and plaster, etc., of which I had no knowledge. Let me tell you that the first week in this position was really a nightmare. I was so discouraged that I thought I would have to give up, but made up my mind I would make good and show my loyalty to the man who so kindly and willingly took his valuable time to show me the hundreds of things of which I was ignorant. At the time of taking this position I was positive I knew all that there was to know in dental assisting. In relating to you my own experience perhaps I am getting off my original subject. The only and main thing that I want to tell you all is don't become discouraged. If at the end of the first month you do not feel that you know it all, remember that we never stop learning. Do not become discouraged if at first the remuneration is small, for think what you would have received each week if you had been employed in this capacity ten years ago. If you will do your best and prove your worth the reward will be yours without the asking. Do not be discouraged if you hear that Doctor So and So's assistant receives twice the amount that you receive for doing nothing. Personally I would rather work for what I receive. For if we permit ourselves to become discouraged by the many wonderful tales we hear of easy positions with large pay, I am afraid that we will drift from one position to another, like a cork on the ocean, and never amount to anything. And to bring my paper to a close just remember that if at first you don't succeed, try, try again. But take my advice do not try in the same way, make a success of it.

March Meeting

OF THE

EDUCATIONAL AND EFFICIENCY SOCIETY FOR DENTAL ASSISTANTS, FIRST DISTRICT, NEW YORK

The March meeting of the Educational and Efficiency Society for Dental Assistants, 1st District, New York, was held Tuesday evening, March 13th, 8 P. M., at the Academy of Medicine, 17 W. 43rd Street, New York City, Juliette A. Southard, President, in the chair.

Following the routine Order of Business, Reports of Committees, etc., Miss Elizabeth O'Toole, Chairman of the Annual Dinner Committee, announced that the annual dinner of the Society would be held at the Hotel Commodore, on Wednesday evening, May 9th, at which time would be entertained as guests of honor Officers of the American Dental Association, New York State Dental Society, and 1st and 2nd District Dental Societies.

A group of members of the Society will give a demonstration clinic during the New York State Dental Convention at the Hotel Commodore, beginning May 9th. This demonstration will exemplify the duties of the trained dental assistant and her possibilities.

Owing to illness the address of Dr. L. M. Waugh, Essayist of the evening, was deferred until a later date.

Miss Katherine Devereux Blake, well-known educator, spoke on the value of co-operation for success. She emphasized the incentive of association with others of kindred interests and pursuits and the benefit of bringing one's personal experiences and problems to the "group" for discussion and assistance towards a better understanding of one's work. She mentioned the great necessity of dental care in young school children for their future welfare, her experience as a school principal having brought her in close contact with this very necessary phase of hygiene. Miss Blake spoke of the dental assistant being particularly fitted by her position in the dental office and personal contact with children patients to impress upon them the great value of careful cleansing of the mouth and teeth. She urged the conservation of health; without good health one cannot accomplish one's daily tasks creditably; she emphasized that rest, recreation and diet properly balanced were the principal factors for good health and one hundred per cent efficiency.

Miss Emily Campbell, Chairman, spoke of the good work being done by the class in Roentgenology; Miss Bertha Ungright, Chairman of the Laboratory Technique Class, announced that this class would resume meetings discontinued owing to illness of members. Miss Emily Wiss, Chairman of the 2nd Class in Public Speaking and Parliamentary Procedure spoke of the progress being made by this class, and warned the members of the 1st Class to look to their laurels.

Members of the dental profession are urged to attend the meetings and see and hear for themselves, at first hand, what the Society is doing. The meetings are held the second Tuesday of each month from October to May inclusive. Dental assistants interested please communicate with Mae L. Bennett, Secretary, 104 E. 40th Street, New York City, or Juliette A. Southard, President, 174 W. 96th Street, New York City.

EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—ADDISON

An oyster is a fish built like a nut.

A go-getter is a chap who will try anything twice.

(Customer)—A glass of plain soda without flavor?

(Soda-Jerker)—Without what flavor?

The customer pondered this for a brief space. "Without chocolate," he finally decided.

(Soda-Jerker)—You can't have it without chocolate, 'cause we ain't got no chocolate flavor. You'll have to take it without vanilly.

"Is your Packard friend coming tonight?"

"No."

"Dodge Brothers?"

"No, dearie, this is Willys-Knight."

(Judge)—You are accused of speeding. Have you anything to say?

(Culprit)—I had just heard of a vacant flat and I wanted to get there first.

(Judge)—Case dismissed.

"Father, what is fate?"

"It's crossing a busy street three times a day for three years, and then being run over by a farm wagon in the country!"

(Crawford)—Gramercy is a very considerate man.

(Crabshaw)—Extremely so. When he has a cough he goes to the movies instead of the theatre.

A bull may not have much brains, but it knows what to do when it sees a red flag.

A tramp stopped at a farmhouse one evening and asked for a job in return for a night's lodging and meals. The farmer put him to milking the cows, but a few moments later the tramp reported that the flies were so bad that the cows would not stand still long enough to be milked.

The farmer looked at his watch and replied: "Wait about half an hour, till supper time. The flies will all be in the dining room then and you can milk in peace."

"I suppose I ought to weed that garden, but I can't tell which are the vegetables and which are the weeds."

"That's easy. The weeds are the ones that haven't any bugs on them."

(Husband is looking around excitedly for his wife)—Bridget do you know anything of my wife's whereabouts?

(Bridget)—Yis, sor; I put thim in the wash.

A man travelling through the Ozarks in Missouri went into a small country store to make a purchase. The proprietor was sitting very snugly in a chair and did not move to wait on the customer.

"Hey, there!" said the man, "can't you wait on me, I'm in a hurry?"

The proprietor only shifted his position slightly and said, "Couldn't you come in some time when I'm standing up?"

The curate discovered a man fishing one Sunday. He already had caught several fish.

"My good man," said the curate, "what did these fish do to deserve this treatment?"

"Well, that's what they get for chasing worms on the Sabbath!"

When the English tongue we speak
Why is break not rhymed with freak?
Will you tell me why it's true
We say sew but likewise few,
And the maker of a verse
Cannot cap his horse with worse?
Beard sounds not the same as heard;
Cord is different from word;
Cow is cow, but low is low;
Shoe is never rhymed with foe.
Think of hose and dose and lose,
And of goose and yet of choose.
Think of comb and tomb and bomb,
Doll and roll and home and some.
And since pay is rhymed with say,
Why not paid with said, I pray?
We have blood and food and good,
Mould is not pronounced like could.
Wherefore done and gone and lone?
Is there any reason known?
And, in short, it seems to me
Sound and letters disagree.

DIETETICS and HEALTH

Educating the Public

The following is the seventh of a series of "short stories" intended to inform the public of the possible results of dental ignorance or neglect, and to suggest the benefits which can be reasonably expected from intelligent dental treatment.

Any practitioner who wishes to have these stories published in his local newspaper is privileged to do so, but in all cases the author's name must accompany the article, and in no case must a local dentist be mentioned in any way in connection with the article. The design is to secure publicity for dentistry rather than for any individual practitioner.—EDITOR.

Do You Care as Well for Your Body as for Your Car?

L. W. Dunham, D.D.S., New York

Men wise in mechanical science declare that the human body is the finest, most exquisite machine ever known. Let's accept that as a fact!

Do you run your car the way you do your body? We'll *hope* not.

Every fine motor is regularly gone over, adjustments are made, parts cleaned and replaced and for what? Just two or three years' use.

Unless you give your body as good care, you simply cannot expect health and efficient work from it.

Of course you are going to begin now to do better, but *please* don't forget that the teeth and mouth are very important parts and need frequent examination and care.

Many times prevention of serious disease lies in expert care of the teeth.

Vitamines

When the discovery of the first vitamine was announced to the medical world, all progressive physicians realized that a new fundamental truth had been added to our knowledge, says the International Journal of Surgery. With the growing recognition of the vital signifi-

cance of this mysterious new factor, the hopes of the practical clinician were raised to a high pitch. There followed discovery upon discovery. Additional vitamines were identified and their etiologic significance in the causation of beri-beri and scurvy, of ophthalmia and polyneuritis was established on the firm and incontrovertible basis of experimental proofs.

In spite of all attempts to isolate the active principles and to determine their chemical composition and physical properties, we are as much in the dark in this respect as at the commencement. On the other hand we have had many demonstrations of their curative potency. Who would not be impressed by the spectacle of an experimental animal, rendered moribund by a "deficiency" diet, recover within the space of a few hours after the administration of minute traces of the missing vitamine. It need not occasion surprise that this mystery has taken hold of the imagination of the lay mind as well as of the enthusiastic physician. It seems an inevitable corollary under such circumstances that the faker should step in with the scene all set and commence the commercial exploitation of the substances. To secure a wider appeal and a more profitable market for his products his promises are not likely to err on the side of understatement or wise moderation. Yeast in particular has found high favor among this gentry, for it is actually rich in water-soluble vitamine B and, moreover, since remote antiquity it has enjoyed a therapeutic reputation of sorts. The promises of a cure-all have of course not materialized. In addition the novelty has worn off the topic so that the sensation hunters are beginning to turn their attention to other and more promising fields. This has served as a signal for other sets of quacks, diet faddists and non-medical "scientists" to decry the therapeutic value of vitamines altogether.

For this reason the time is opportune for a reconsideration of the whole subject from an unbiased scientific point of view. Any one interested in the topic, and this must needs include all practicing members of our profession, would do well to write for a copy of *Bulletin 240,* to the Connecticut Agricultural Experiment Station at New Haven, Conn. It is just such a government institution to whom one may look for an impartial and unprejudiced statement of facts. Perhaps the arbitrary attitude of some of the self-appointed therapeutic dictators has been a factor in encouraging a few sensation mongers to launch a general attack upon the American medical profession and to hold up to ridicule their efforts to help their patients by empirical means where science fails.

It is well to turn from this atmosphere of medical and commercial politics to the results of a scientific study. Bailey and his collaborators employed three animals for every set of experiments to exclude the chances of individual idiosyncrasies. In fairness to the manufacturers

several fresh samples of their products were used to avoid vitiating the investigation by accidental deterioration or lack of uniformity of any given preparation.

In every instance the criterion of activity was the growth obtained within a given period after experimental vitamine starvation had been brought about. To achieve this, young rats were placed in individual cages and supplied with a normal food supply which, however, was lacking in water-soluble B vitamine. The therapeutic administration of the various products was commenced as soon as the animals showed a persistent and conspicuous decline in weight. It was found that the majority of the preparations on the market, failed to pass the test.

The time has come for us to form a clear picture in our minds as to the vital significance of vitamines. We must strip the subject of all exaggerations with which it has been surrounded. Notwithstanding the work of sensationalists, it is gratifying to note that there are dependable products available which fulfil the claims made on their behalf even when subjected to the rigorous tests and controls of the laboratory.

The Major Blessing

Having health, a human being has no right to weep or whine; men despise his hully-cheeing and his wanton waste of brine. Being free from pain and anguish, man should never talk of woe, he should never droop or languish, though his row be hard to hoe. For he has the major blessing, has the crown of human bliss; he is yellow when confessing grief in such a state as this. What is trouble to the voter who is sound in wind and limb, who is like a Green Seal motor when it comes to pep and vim? What misfortune is so drastic as to daunt the healthy wight, who has ligaments elastic and no colic in the night? What reverse is so outrageous as to crush the husky gent, when his whiskers are umbrageous, and his back by age unbent? Yet I often hear the giant beefing roundly at his luck, as he wields the handsaw pliant, striving thus to earn a buck. And I hear the butcher wailing while assassinating hogs; he must work while some go trailing rabbits with their guns and dogs. No one has a right to grumble if his health presents no flaw, though his place in life be humble, though his task be coarse and raw. Leave the grumbling to the relic who is old and full of pain—but his smile is oft angelic, and his language safe and sane.——Walt Mason.

Vacation copy to be in May 5th. Address to
The Dental Digest, 220 W. 42d St., N. Y.

Medicine and the Law

(From the London Lancet)

The Dental Board and Covering

During a recent session of the Dental Board of the United Kingdom the main fact which emerged in connexion with the disciplinary cases considered was that numerous dental practitioners pay little or no attention to the regulations framed by the General Medical Council for the ordering of their professional conduct. In case after case the accused pleaded ignorance of the regulations—an ignorance exposed by the action of supporting the application of unregistered assistants with statements which incriminated the practitioner concerned by clearly indicating that covering had taken place. The degree of covering varied widely, between establishment of an unqualified assistant in a branch surgery with little or no supervision, and the employment of a mechanic on operative work, usually under the direction of the principal, but without supervision during occasional holidays taken by the latter.

The Board wished to keep separate, as far as possible, the questions of discipline and registration, but in some cases it became evident that the practitioner had overstated the case on behalf of his assistant, and in so doing had taken up a position from which he found it desirable to withdraw when the facts were made plain. In several instances, therefore, the assistant's application to be registered as a dentist was totally withdrawn, usually with the understanding that the assistant would enter another application to be placed on the list of mechanics desirous of passing the prescribed examination.

In no case before the Board was any complaint brought forward with proof of the dangers attending the irregularities which have taken place. It was argued on behalf of one of the accused that the employment and training of an unqualified operative assistant by a registered dentist—employment and training which might clearly be of a better type than those given by an unqualified dental practitioner—should not be regarded too severely at a time when unqualified men who had practised for the prescribed period of time had been admitted to the register irrespective of their early training. In another instance the accused advanced the defence that in the face of so much unqualified opposition he felt it his duty to train an assistant of whose competence he might be assured.

The Board directed no names to be removed from the register, but ruled that those persons against whom charges of covering were proved should, at the November session of the Board, bring evidence of unquestionable behavior during the intervening period. That the leniency

displayed on this occasion is not to be regarded as a precedent was clearly indicated by Mr. F. D. Acland, M.P., Chairman of the Board, in his pronouncement of the Board's ruling. For he emphasized the gravity of covering in its several aspects as a fraud upon the public, a danger to the public health, and a proceeding grossly unfair to practitioners who were abiding by the regulations of the General Medical Council.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS, OF AUGUST 24, 1912

Of The Dental Digest
at New York, N. Y.
State of New York } ss.
County of New York }

Published monthly
for April 1, 1923

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Leroy Frantz, who, having been duly sworn according to law, deposes and says that he is the Vice-President of the Dentists' Supply Co., Publishers of The Dental Digest, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

NAME OF	POST OFFICE ADDRESS
Publishers, The Dentists' Supply Company	220 West 42nd St., New York, N. Y.
Editor, George Wood Clapp	New Rochelle, N. Y.
Managing Editor, George Wood Clapp	New Rochelle, N. Y.
Business Manager, L. W. Dunham	New Rochelle, N. Y.

2. That the owners are:

The Dentists' Supply Company	220 West 42nd St., New York, N. Y.
DeTrey & Co., Ltd.	23 Swallow St., London, England
Leroy Frantz	Sutton Manor, New Rochelle, N. Y.
Gertrude L. Frantz, Trustee for Horace G. Frantz	221 Cheyenne Rd., Colorado Springs, Colo.
Gertrude L. Frantz	221 Cheyenne Rd., Colorado Springs, Colo.
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Ida O. Whiteley	905 S. Beaver St., York, Pa.
George H. Whiteley, Jr.	121 W. Springettsbury Ave., York, Pa.
James Osborne Whiteley	122 W. Springettsbury Ave., York, Pa.

De Trey & Co., Ltd., is a corporation organized under the laws of England, with an authorized capital stock of 2,000,000 shares of One Pound each, ownership of which is scattered over a considerable part of Europe and includes a long list of names unknown to us, and probably a number of banks and other corporations.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

THE DENTISTS' SUPPLY COMPANY,
Leroy Frantz, *Vice-President.*

Sworn to and subscribed before me this 6th day of April, 1923.

[Seal] Emelie E. Schaad
Notary Public, Westchester County
Certificate filed in N. Y. County
Clerk's No. 83; Register's No. 5264—My commission expires March 30, 1924.

FUTURE EVENTS

THE WESTCHESTER DENTAL SOCIETY meets the third Tuesday of each month, October to May, inclusive. The next regular meeting of the Society will be held at The Yonkers Chamber of Commerce, 35 South Broadway, Yonkers, N. Y., on Tuesday evening, May 15th, 1923, at 8:15 P. M.

Dr. H. Ausubel will lecture on "Tips on Anesthesia and Surgical Exodontia." The lecture will be illustrated with lantern slides, and will be followed by open discussion on the subject.

A. S. ROCHLIN, D.D.S., *President,*
205 Flagg Bldg., Yonkers, N. Y.
H. ROSENBERG, D.D.S., *Secretary,*
15 Palisade Ave., Yonkers, N. Y.

THE NEVADA STATE BOARD OF DENTAL EXAMINERS will meet at Reno, Nevada, June 18th to 23rd, 1923, for the purpose of examining candidates for license to practise in the State of Nevada.

G. H. MARVEN, D.D.S., *Secretary,*
P. O. Box 56, Reno, Nevada.

THE MASSACHUSETTS BOARD OF DENTAL EXAMINERS will hold an examination for registration in dentistry, June 19, 20, 21, 22, 23, 25, 26, 27 and 28, 1923.

All applications for examination must be filed by all candidates, with fee of $25.00, at least ten days before examination at the office of the secretary. For application blanks, examination rules and other information apply to the office of the Secretary, Room 146, State House, Boston.

J. N. CARRIERE, D.D.S., *Secretary.*

The next examination of the PENNSYLVANIA BOARD OF DENTAL EXAMINERS will be held in Philadelphia and Pittsburgh on Wednesday, Thursday, Friday and Saturday, June 20, 21, 22 and 23, 1923. The theoretical examination will be held at Musical Fund Hall, 808 Locust Street, Philadelphia, and the University of Pittsburgh, Pittsburgh. The practical examination will be held at the University of Pittsburgh and at the Evans Dental Institute, 40th and Spruce Streets, Philadelphia, on Wednesday, June 20. The operative examinations will be held at 8:30 a. m. and the prosthetic examinations at 1:30 p. m.

For further information, address the secretary,

ALEXANDER H. REYNOLDS,
4630 Chester Avenue, Philadelphia.

THE CONNECTICUT DENTAL COMMISSION will meet at Hartford, Connecticut on June 21st, 22nd and 23rd, to examine applicants for license to practise dentistry and dental hygiene, and to transact any other business proper to come before them. For further information apply to Arthur B. Holmes, 63 Bank Street, Waterbury, Connecticut.

THE SOUTH CAROLINA STATE BOARD OF DENTAL EXAMINERS will hold its next regular meeting at the Jefferson Hotel, Columbia, S. C., June 22-23, 1923.

For information and application blanks address

W. K. WALKER, *Secretary,*
P. O. Box 714, Orangeburg, S. C.

THE WISCONSIN BOARD OF DENTAL EXAMINERS will hold an examination for dentists and dental hygienists on June 25, 26, 27, 28, 29, 1923, in Milwaukee, Wis. All applications to take these examinations must be made on blanks supplied by the Secretary, and should be filed at least fifteen days before the examination. For further information and blanks address

J. L. BLISH, D.D.S., *Secretary,*
Fond du Lac, Wis.

The next meeting of the OKLAHOMA STATE BOARD OF DENTAL EXAMINERS will be held at the State Capitol, Oklahoma City, Okla., June 26th to 30th, inclusive. For further information regarding requirements, etc., address Dr. L. M. Doss, Secretary, 245 American National Bank Building, Oklahoma City, Okla.

THE MAINE BOARD OF DENTAL EXAMINERS will hold its annual meeting at the State House, Augusta, on June 28, 29, and 30, 1923. The examinations will begin at 1:30 p. m. June 28. For further particulars and information address Henry Gilman, D.M.D., Secretary, 192 State Street, Portland, Maine.

THE ARKANSAS STATE BOARD OF DENTAL EXAMINERS will hold its regular meeting at the Arlington Hotel, Hot Springs, Arkansas, July 9, 10, 11, 1923, for the purpose of examining applicants for license to practise in this state.

Application blanks and full information will be furnished by the Secretary upon receipt of request.

H. J. CRUME, *Secretary,*
Wilson Bldg., El Dorado, Arkansas.

THE NORTH DAKOTA STATE BOARD OF DENTAL EXAMINERS will hold their next meeting at Fargo, North Dakota, July 10, 11, 12, 1923.

For application blanks, etc., address

SOLON CRUM, *Secretary,*
73 Edwards Building, Fargo, North Dakota.